

**STATE OF INDIANA**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**PUBLIC NOTICE NO. 20210702 IN0032981 – D**  
**DATE OF NOTICE: JULY 2, 2021**  
**DATE RESPONSE DUE: AUGUST 2, 2021**

---

The Office of Water Quality proposes the following NPDES DRAFT PERMIT:

**MINOR– RENEWAL**

**PICKLE PROPERTIES LLC.**, Permit No. IN0032981, DEKALB COUNTY, 5686 State Route 1, St. Joe, IN. This industrial facility discharges 0.27 million gallons daily of process wastewater and storm water to the St. Joseph River. Permit Manager: Trisha Williams, 317/234-8210, [twilliam@idem.in.gov](mailto:twilliam@idem.in.gov).  
Posted online at <https://www.in.gov/idem/6408.htm>.

---

**PROCEDURES TO FILE A RESPONSE**

Draft can be viewed or copied (10¢ per page) at IDEM/OWQ NPDES PS, 100 North Senate Avenue, (Rm 1203) Indianapolis, IN, 46204 (east end elevators) from 9 – 4, Mon - Fri, (except state holidays). A copy of the Draft Permit is on file at the local County Health Department. Please tell others you think would be interested in this matter. For your rights & responsibilities see: Public Participation Guide: <http://www.in.gov/idem/5474.htm> or Citizens' Guide to IDEM: <https://www.in.gov/idem/6900.htm>.

**Response Comments:** The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the Draft permit. All comments must be postmarked no later than the Response Date noted to be considered in the decision to issue a Final permit. Deliver or mail all requests or comments to the attention of the Permit Writer at the above address, (mail code 65-42 PS).

**To Request a Public Hearing:**

Any person may request a Public Hearing. A written request must be submitted to the above address on or before the Response Date noted. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the Hearing. IDEM will determine whether to hold a Public Hearing based on the comments and the rationale for the request. Public Notice of such a Hearing will be published in at least one newspaper in the geographical area of the discharge and sent to anyone submitting written comments and/or making such request and whose name is on the mailing list at least 30 days prior to the Hearing.



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

100 N. Senate Avenue • Indianapolis, IN 46204  
(800) 451-6027 • (317) 232-8603 • [www.idem.IN.gov](http://www.idem.IN.gov)

Eric J. Holcomb  
Governor

Bruno Pigott  
Commissioner

July 2, 2021

VIA ELECTRONIC MAIL

Mr. Max Troyer, President  
Pickle Properties, LLC  
5686 State Route 1  
St. Joe, IN 46785

Dear Mr. Troyer:

Re: NPDES Permit No. IN0032981  
Draft Permit  
Pickle Properties, LLC  
St. Joe, IN – DeKalb County

Your application and supporting documents have been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft NPDES Permit.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/5474.htm>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/6900.htm>. A 30-day comment period is available to solicit input from interested parties, including the public.

Please review this draft permit and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit.

Questions concerning this draft permit may be addressed to Trisha Williams of my staff, at 317/234-8210 or [twilliam@idem.in.gov](mailto:twilliam@idem.in.gov).

Sincerely,

*Nikki Gardner*

Nikki Gardner, Chief  
Industrial NPDES Permits Section  
Office of Water Quality



Enclosures

cc: DeKalb County Health Department  
Rex Counterman, IDEM

STATE OF INDIANA  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Clean Water Act" or "CWA"), and IDEM's authority under IC13-15,

PICKLE PROPERTIES, LLC

is authorized to discharge from a canning facility that processes and pickles cucumbers, peppers, cauliflower, and onions that is located at 5686 State Route 1, St. Joe, Indiana to receiving waters identified as the St. Joseph River in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on \_\_\_\_\_ for the Indiana Department of Environmental Management.

Jerry Dittmer, Chief  
Permits Branch  
Office of Water Quality

## PART I

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 002, located at Latitude 41° 19' 10.9", Longitude -84° 53' 4.6". The discharge is limited to process and sanitary wastewater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the St. Joseph River. Such discharge shall be limited and monitored by the permittee as specified below:

#### DISCHARGE LIMITATIONS [1][2]

##### Outfall 002

Table 1

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow-Outfall [3]	Report	Report	MGD	-----	-----	-----	Daily	24 Hour Total
Flow-Receiving Stream [4]	Report	Report	MGD	-----	-----	-----	Daily	Daily Mean
O & G	-----	-----	-----	10	15	mg/l	2 X Monthly	Grab
BOD5 [5]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TSS [6]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
Ammonia, as N [7]								
Summer	6.6	12	lbs/day	3.3	5.8	mg/l	2 X Monthly	Grab
Winter	11	19	lbs/day	5.5	9.5	mg/l	2 X Monthly	Grab
Chloride	11,000	19,000	lbs/day	5,400	9,500	mg/l	2 X Monthly	Grab
Sulfate	-----	-----	-----	Report	Report	mg/l	2 X Monthly	Grab
E. coli	-----	-----	-----	Report [8]	Report [9]	cfu/100ml	2 X Monthly	Grab

Table 2

Parameter	Quality or Concentration			Monitoring Requirements	
	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [10]	6.0	9.0	s.u.	2 X Monthly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <http://www.in.gov/idem/5157.htm>

- [3] The facility cannot discharge unless the flow in the St. Joseph River upstream of the diffuser is 100 cfs (64.6 MGD) or greater.

The daily effluent flow through the diffuser must average between 0.20 MGD (139 GPM) and 0.24 MGD (167 GPM) but not be below 0.12 MGD (83 GPM) at any time.

- [4] During discharge. The daily mean flow shall be obtained from the USGS Gaging Station (04178000) on the St. Joseph River near Newville, Indiana. The permittee shall obtain approval from the Industrial Wastewater Permits Section prior to using another means to measure the flow in the receiving stream.
- [5] The total discharged mass of BOD5 during a discharge season shall not exceed the annual average value from 40 CFR 407.62. The permittee is required to calculate the annual average limitation in pounds per year (lbs/year) for BOD5 by applying the previous calendar year's production of fresh packed, process packed, and salt station product to the following formula:

$$[(p1 \times 0.53) + (p2 \times 0.68) + (p3 \times 0.15)]$$

where: p1 = fresh packed pickles in 1,000 lbs of raw fruit processed in a calendar year.  
p2 = process packed pickles in 1,000 lbs of fruit processed in a calendar year.  
p3 = salt station processed pickles in 1,000 lbs of fruit processed in a calendar year.

The results of this calculation, which should include the production data values that calculations were based on, are to be included with the April discharge monitoring report (DMR) for each calendar year, along with a summation of the total mass of BOD5 discharged during a discharge season.

- [6] The total discharged mass of TSS during a discharge season shall not exceed the annual average value from 40 CFR 407.62. The permittee is required to calculate the annual average limitation in pounds per year (lbs/year) for TSS by applying the previous calendar year's production of fresh packed, process packed and salt station product to the following formula:

$$[(p1 \times 0.99) + (p2 \times 1.28) + (p3 \times 0.25)]$$

where: p1 = fresh packed pickles in 1,000 lbs of raw fruit processed in a calendar year.  
p2 = process packed pickles in 1,000 lbs of fruit processed in a calendar year.  
p3 = salt station processed pickles in 1,000 lbs of fruit processed in a calendar year.

The results of this calculation, which should include the production data values that calculations were based on, are to be included with the April discharge monitoring report (DMR) for each calendar year, along with a summation of the total mass of TSS discharged during the permitted discharge season.

- [7] Summer limitations apply from May 1 through November 30. Winter limitations apply from December 1 through April 30.
- [8] The monthly average E. coli value shall be calculated as a geometric mean. No samples may be excluded when calculating the monthly geometric mean.
- [9] In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.
- [10] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

B. MINIMUM NARRATIVE LIMITATIONS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including waters within the mixing zone, to contain substances, materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:
  - a. will settle to form putrescent or otherwise objectionable deposits;
  - b. are in amounts sufficient to be unsightly or deleterious;
  - c. produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
  - d. are in amounts sufficient to be acutely toxic to , or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;
  - e. are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.
2. outside the mixing zone, to contain substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Monthly Reporting

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management (IDEM) containing results obtained during the previous month and shall be submitted no later than the 28<sup>th</sup> day of the month following each completed monitoring period. The first report shall be submitted by the 28<sup>th</sup> day of the month following the month in which the permit becomes effective.



These reports shall include, but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR). All reports shall be submitted electronically by using the NetDMR application, upon registration, receipt of the NetDMR Subscriber Agreement, and IDEM approval of the proposed NetDMR Signatory. Access the NetDMR website (for initial registration and DMR/MMR submittal) via CDX at: <https://cdx.epa.gov/>. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit. See Part II.C.10 of this permit for Future Electronic Reporting Requirements.

- a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.
- b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean, except the monthly average for *E. coli* shall be calculated as a geometric mean. Daily effluent values that are less than the LOQ, that are used to determine the monthly average effluent level shall be accommodated in calculation of the average using statistical methods that have been approved by the Commissioner.
- c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.
- d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.
- e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.
- f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

3. Definitions

- a. "Monthly Average" means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month.

The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

- b. "Daily Discharge" means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that reasonably represents the calendar day for the purposes of sampling.
- c. "Daily Maximum" means the maximum allowable daily discharge for any calendar day.
- d. A "24-hour composite sample" means a sample consisting of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:
- (1) recording the discharge flow rate at the time each individual sample is taken,
  - (2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the "total flow" value,
  - (3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,
  - (4) then multiply the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.
- e. "Concentration" means the weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

- f. The "Regional Administrator" is defined as the Region 5 Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.
- g. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.
- h. "Limit of Detection" or "LOD" means the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix.
- i. "Limit of Quantitation" or "LOQ" means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.
- j. "Method Detection Level" or "MDL" means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.
- k. "Grab Sample" means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without considerations of time.

4. Test Procedures

The analytical and sampling methods used shall conform to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. Different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency. When more than one test procedure is approved for the purposes of the NPDES program under 40 CFR 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 122.21(e)(3) and 122.44(i)(1)(iv).

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall maintain records of all monitoring information and monitoring activities, including:

- a. The date, exact place and time of sampling or measurement;
- b. The person(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such measurements and analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR) and Monthly Monitoring Report (MMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
  - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
  - b. controls any pollutant not limited in the permit.
2. for any of the causes listed under 327 IAC 5-2-16.

## PART II

### STANDARD CONDITIONS FOR NPDES PERMITS

#### A. GENERAL CONDITIONS

##### 1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

##### 2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

##### 3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit an application for renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if all of the following occur:

- a. permission is requested in writing before such deadline;
- b. IDEM grants permission to submit the application after the deadline; and
- c. the application is received no later than the permit expiration date.

#### 4. Permit Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

- a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date;
- b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner;
- c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility; and
- d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

#### 5. Permit Actions

- a. In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:
  1. Violation of any terms or conditions of this permit;
  2. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

3. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit, e.g., plant closure, termination of discharge by connection to a POTW, a change in state law that requires the reduction or elimination of the discharge, or information indicating that the permitted discharge poses a substantial threat to human health or welfare.
- b. Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of pollutants discharged; or
  2. the commissioner may request to evaluate whether such cause exists.
- c. In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

## 6. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or invasion of other private rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

## 7. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.



8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

10. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Environmental Rules Board is liable for a civil penalty not to exceed twenty-five thousand dollars (\$25,000) per day of any violation.

Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

Pursuant to IC 13-30-10-1.5(e), a person who willfully or negligently violates any NPDES permit condition or filing requirement, or any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, commits a Class A misdemeanor.

Pursuant to IC 13-30-10-1.5(i), an offense under IC 13-30-10-1.5(e) is a Level 4 felony if the person knowingly commits the offense and knows that the commission of the offense places another person in imminent danger of death or serious bodily injury. The offense becomes a Level 3 felony if it results in serious bodily injury to any person, and a Level 2 felony if it results in death to any person.

Pursuant to IC 13-30-10-1.5(g), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-8 commits a Class B misdemeanor.

Pursuant to IC 13-30-10-1.5(h), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-9, IC 13-18-10, or IC 13-18-10.5 commits a Class C misdemeanor.

Pursuant to IC 13-30-10-1, a person who knowingly or intentionally makes any false material statement, representation, or certification in any NPDES form, notice, or report commits a Class B misdemeanor.

11. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(10), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10-1, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record, (b) tampers with, falsifies, or renders inaccurate or inoperative a recording or monitoring device or method, including the data gathered from the device or method, or (c) makes a false material statement or representation in any label, manifest, record, report, or other document; all required to be maintained under the terms of a permit issued by the department commits a Class B misdemeanor.

12. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

13. Wastewater treatment plant and certified operators

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), "responsible charge operator" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

14. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

15. Inspection and Entry

In accordance with 327 IAC 5-2-8(8), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and
- d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

- a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.
- b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(9).

Neither 327 IAC 5-2-8(9), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(12), the following are requirements for bypass:

- a. The following definitions:
  - (1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

- (2) “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. The permittee may allow a bypass to occur that does not cause a violation of the effluent limitations contained in this permit, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to Part II.B.2.c. and d.
- c. The permittee must provide the Commissioner with the following notice:
  - (1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.
  - (2) As required by 327 IAC 5-2-8(11)(C), the permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within twenty-four (24) hours from the time the permittee becomes aware of such noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. If a complete report is submitted by e-mail within 24 hours of the noncompliance, then that e-mail report will satisfy both the oral and written reporting requirement. E-mails should be sent to [wwreports@idem.in.gov](mailto:wwreports@idem.in.gov).
- d. The following provisions are applicable to bypasses:
  - (1) Except as provided by Part II.B.2.b., bypass is prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

- (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
  - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance.
  - (C) The permittee submitted notices as required under Part II.B.2.c.
- (2) The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.d.(1). The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.
- e. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(13):

- a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.

- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:
  - (1) An upset occurred and the permittee has identified the specific cause(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee complied with any remedial measures required under Part II.A.2; and
  - (4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.
- d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal. The discharge of pollutants in treated wastewater is allowed in compliance with the applicable effluent limitations in Part I. of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(11)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. In this context, permitted facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

- a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as defined in 327 IAC 5-1.5.

- b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in Part I.A. nor to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(10) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Discharge Monitoring Reports", Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(11)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge that is in noncompliance are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances; or
- c. Any upset (as defined in Part II.B.3 above) that causes an exceedance of any effluent limitation in the permit.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours and asking for the Compliance Data Section or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.



The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively, the permittee may submit a "Bypass/Overflow Report" (State Form 48373) or a "Noncompliance 24-Hour Notification Report" (State Form 52415), whichever is appropriate, to IDEM at (317) 232-8637 or [wwreports@idem.in.gov](mailto:wwreports@idem.in.gov). If a complete e-mail submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the email report will satisfy both the oral and written reporting requirements.

4. Other Compliance/Noncompliance Reporting

Pursuant to 327 IAC 5-2-8(11)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3;

The permittee shall also give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements; and

All reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Other Information

Pursuant to 327 IAC 5-2-8(11)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(15):

- a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

- (1) For a corporation: by a responsible corporate officer. A “responsible corporate officer” means either of the following:
    - a. A president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation; or
    - b. The manager of one (1) or more manufacturing, production, or operating facilities provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty to make major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
  - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - (3) For a Federal, State, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.
  - (4) Under the proposed Federal E-Reporting Rule, a method will be developed for submittal of all affected reports and documents using electronic signatures that is compliant with the Cross-Media Electronic Reporting Regulation (CROMERR). Enrollment and use of NetDMR currently provides for CROMERR-compliant report submittal.
- b. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described above.

- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
  - (3) The authorization is submitted to the Commissioner.
- c. **Electronic Signatures.** If documents described in this section are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.
  - d. **Certification.** Any person signing a document identified under Part II.C.6. shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(15) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to know:

- a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant that is not limited in the permit if that discharge will exceed the highest of the following notification levels.
  - (1) One hundred micrograms per liter (100 µg/l);
  - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - (4) A notification level established by the Commissioner on a case-by-case basis, either at the Commissioner's own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).
- b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application under 40 CFR 122.21(g)(9). However, this subsection b. does not apply to the permittee's use or manufacture of a toxic pollutant solely under research or laboratory conditions.

10. Future Electronic Reporting Requirements

IDEM is currently developing the technology and infrastructure necessary to allow compliance with the EPA Phase 2 e-reporting requirements per 40 CFR 127.16 and to allow electronic reporting of applications, notices, plans, reports, and other information not covered by the federal e-reporting regulations.

IDEM will notify the permittee when IDEM's e-reporting system is ready for use for one or more applications, notices, plans, reports, or other information. This IDEM notice will identify the specific applications, notices, plans, reports, or other information that are to be submitted electronically and the permittee will be required to use the IDEM electronic reporting system to submit the identified application(s), notice(s), plan(s), report(s), or other information.

See Part I.C.2. of this permit for the current electronic reporting requirements for the submittal of monthly monitoring reports such as the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR).



**National Pollutant Discharge Elimination System  
Briefing Memo for  
Pickle Properties, LLC  
Draft: June 2021**

**Indiana Department of Environmental Management**

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

<b>Permittee:</b>	Pickle Properties, LLC 5686 State Route 1 St. Joe, IN 46785
<b>Existing Permit Information:</b>	Permit Number: IN0032981 Expiration Date: October 31, 2021
<b>Facility Contact:</b>	Max Troyer, President (260) 337-5461, <a href="mailto:mtroyer@sechlerspickles.com">mtroyer@sechlerspickles.com</a>
<b>Facility Location:</b>	5686 State Route 1 St. Joe, IN 46785 DeKalb County
<b>Receiving Stream(s):</b>	St. Joseph River
<b>GLI/Non-GLI:</b>	GLI
<b>Proposed Permit Action:</b>	Renew
<b>Date Application Received:</b>	April 20, 2021
<b>Source Category</b>	NPDES Minor – Industrial
<b>Permit Writer:</b>	Trisha Williams (317) 234-8210, <a href="mailto:twilliam@idem.in.gov">twilliam@idem.in.gov</a>

## Table of Contents

<b>1.0 Introduction.....</b>	<b>3</b>
<b>2.0 Facility Description .....</b>	<b>3</b>
2.1 General.....	3
2.2 Outfall Locations.....	5
2.3 Wastewater Treatment .....	5
2.4 Changes in Operation.....	7
2.5 Facility Storm Water .....	7
<b>3.0 Permit History .....</b>	<b>7</b>
3.1 Compliance History .....	7
<b>4.0 Location Of Discharge/Receiving Water Use Designation .....</b>	<b>7</b>
4.1 Total Maximum Daily Loads (TMDLs) .....	9
<b>5.0 Permit Limitations .....</b>	<b>9</b>
5.1 Technology-Based Effluent Limits (TBEL).....	9
5.2 Water Quality-Based Effluent Limits .....	11
5.3 Effluent Limitations and Monitoring Requirements by Outfall .....	11
5.4 Whole Effluent Toxicity (WET) Testing .....	13
5.5 Antibacksliding.....	13
5.6 Antidegradation .....	14
5.7 Storm Water .....	14
5.8 Water Treatment Additives .....	14
<b>6.0 Permit Draft Discussion.....</b>	<b>15</b>
6.1 Discharge Limitations, Monitoring Conditions and Rationale.....	15
6.2 Schedule of Compliance.....	15
6.3 Special Conditions and Other Permit Requirements .....	16
6.4 Spill Response and Reporting Requirement.....	16
6.5 Permit Processing/Public Comment .....	16
<b>Appendix A.....</b>	<b>15</b>

## 1.0 INTRODUCTION

---

The Indiana Department of Environmental Management (IDEM) received a National Pollutant Discharge Elimination System (NPDES) Permit application from Pickle Properties, LLC on April 20, 2021.

In accordance with 327 IAC 5-2-6(a), the current five year permit was issued with an effective date of November 1, 2016. A five-year permit is proposed in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 *et seq.*), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana law requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with and implements these federal and state requirements.

In accordance with Title 40 of the Code of Federal Regulations (CFR) Section 124.7, as well as Title 327 of the Indiana Administrative Code (IAC) 327 Article 5-3-7, a Statement of Basis, or Briefing Memo, is required for certain NPDES permits. This document fulfills the requirements established in these regulations. This Briefing Memo was prepared in order to document the factors considered in the development of NPDES Permit effluent limitations. The technical basis for the Briefing Memo may consist of evaluations of promulgated effluent guidelines, existing effluent quality, receiving water conditions, Indiana water quality standards-based wasteload allocations, and other information available to IDEM. Decisions to award variances to Water Quality Standards or promulgated effluent guidelines are justified in the Briefing Memo where necessary.

## 2.0 FACILITY DESCRIPTION

---

### 2.1 General

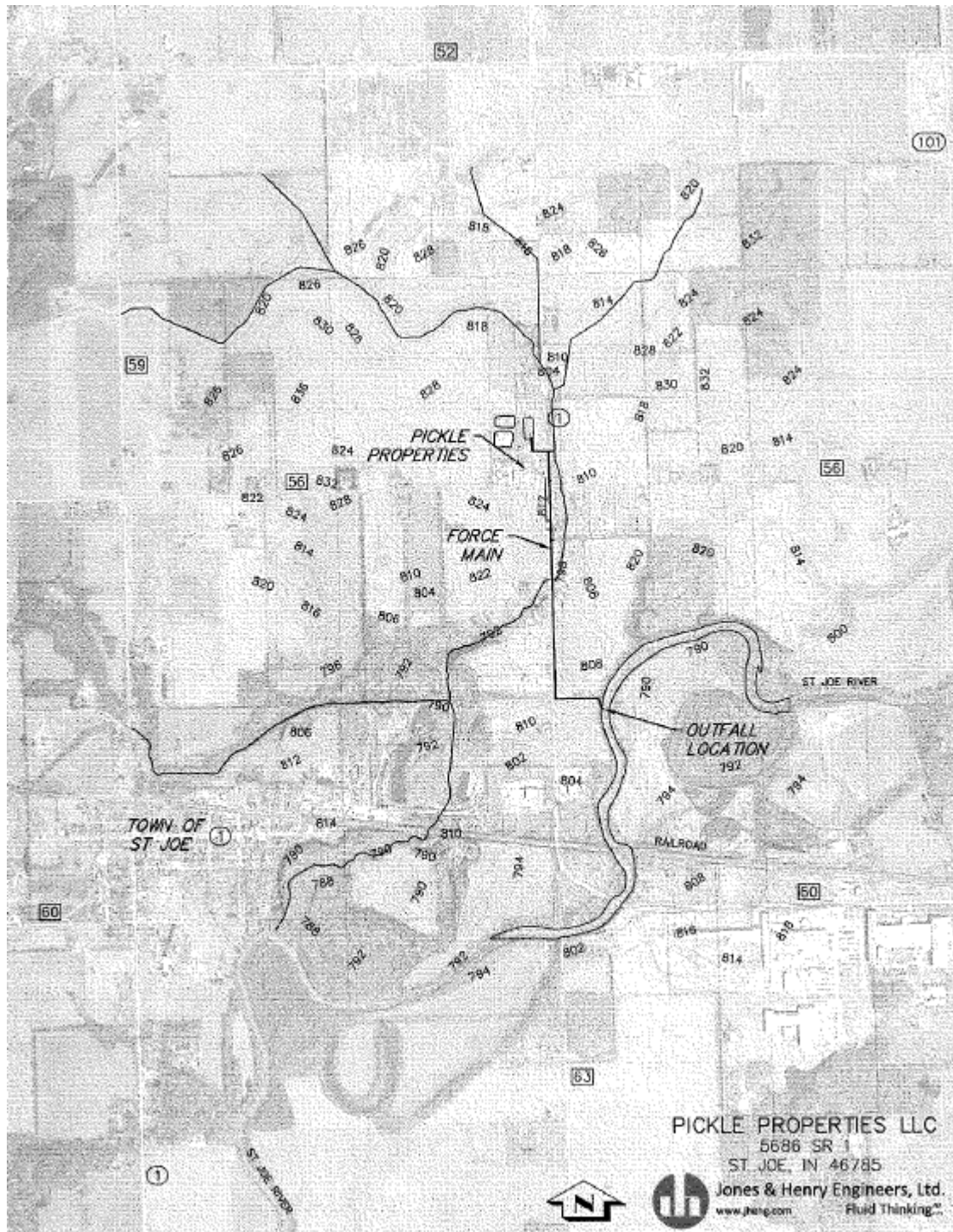
Pickle Properties, LLC is classified under Standard Industrial Classification (SIC) Codes 2033- Canned Fruits, Vegetables, Preserves, Jams, and Jellies and 2035- Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings. The facility is used for pickling, food processing and packaging which includes storage, cuttings, salting, and bottling of pickles, cucumbers, and other food staples.

The facility's source of water is from two (2) on-site wells.

A map showing the location of the facility has been included as Figure 1.



**Figure 1: Facility Location**



5686 State Route 1  
St. Joe, IN 46785  
DeKalb County

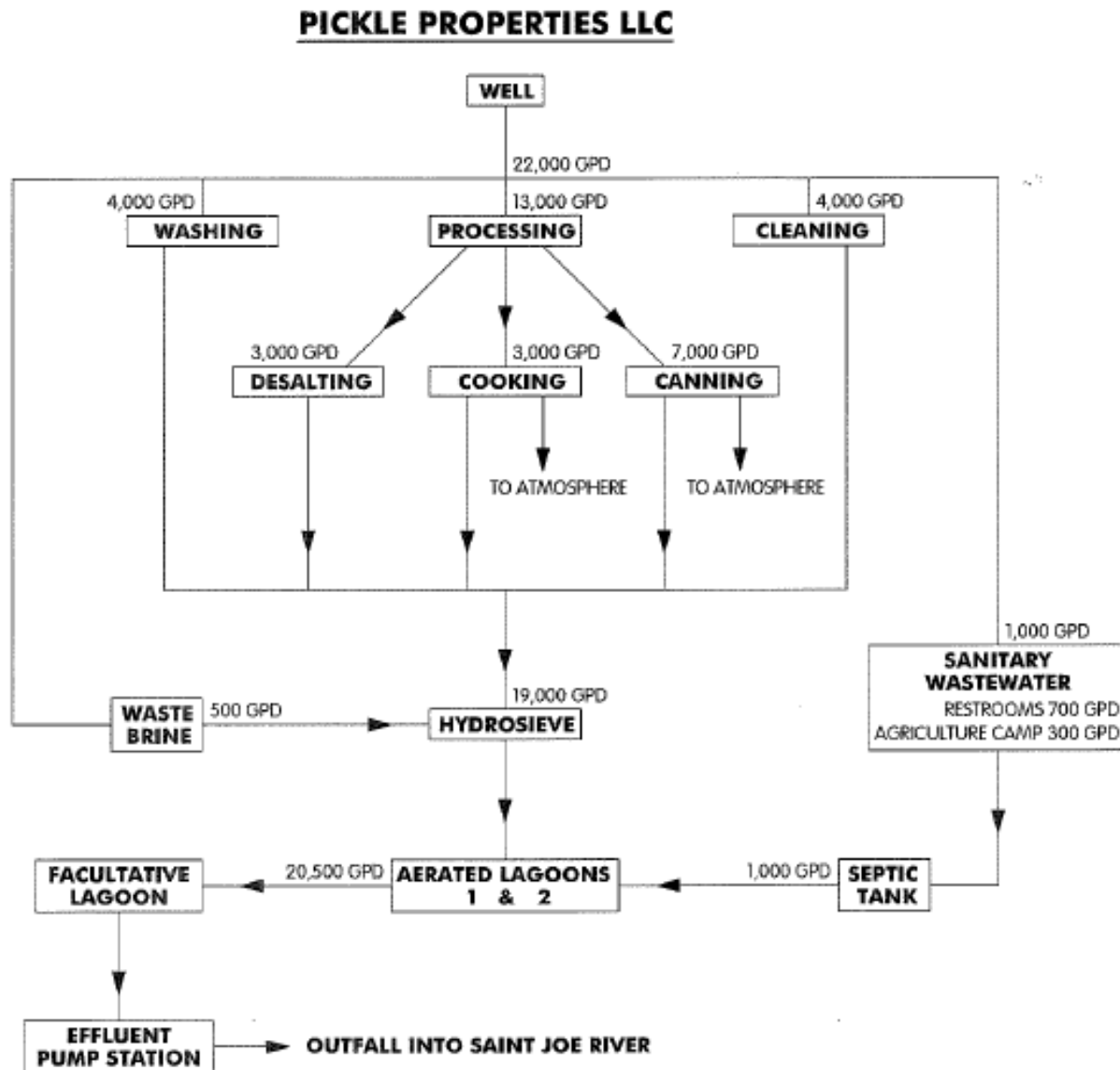
## 2.2 Outfall Locations

Outfall 002	Latitude: 41° 19' 10.9"
	Longitude: -84° 53' 4.6"

## 2.3 Wastewater Treatment

The wastewater is predominately food processing waste (waste salt brine from fermentation and curing of pickles, washing of fresh pack pickles, desalting and washing of jars and clean up) and is treated through a fine screen hydro-sieve then processed through two aerated lagoons in series followed by a facultative lagoon. The wastewater is then discharged through Outfall 002 into the St. Joseph River through an effluent diffuser with three nozzles. The wastewater also includes sanitary waste from employee restrooms. The wastewater treatment system has an average discharge of approximately 0.271 MGD. A Water Balance Diagram has been included as Figure 2.

Figure 2: Water Balance Diagram



The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22-5. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

IDEM has given the permittee a Class A industrial wastewater treatment plant classification.

## **2.4 Changes in Operation**

In the permit application, no changes in operation were identified as occurring since the previous permit renewal.

## **2.5 Facility Storm Water**

Storm water runoff from the process area and storage area is diverted to the wastewater treatment system for treatment and discharged through Outfall 001. The permittee has a Rule 6 general storm water permit: INRM00421.

## **3.0 PERMIT HISTORY**

---

### **3.1 Compliance History**

The purpose of this section is to summarize any violations and enforcement actions associated with the permit.

A review of this facility's discharge monitoring data was conducted for compliance verification and shows no permit limitation violations at Outfall 002 between April 2016 and February 2021. There are no pending or current enforcement actions regarding this NPDES permit.

## **4.0 LOCATION OF DISCHARGE/RECEIVING WATER USE DESIGNATION**

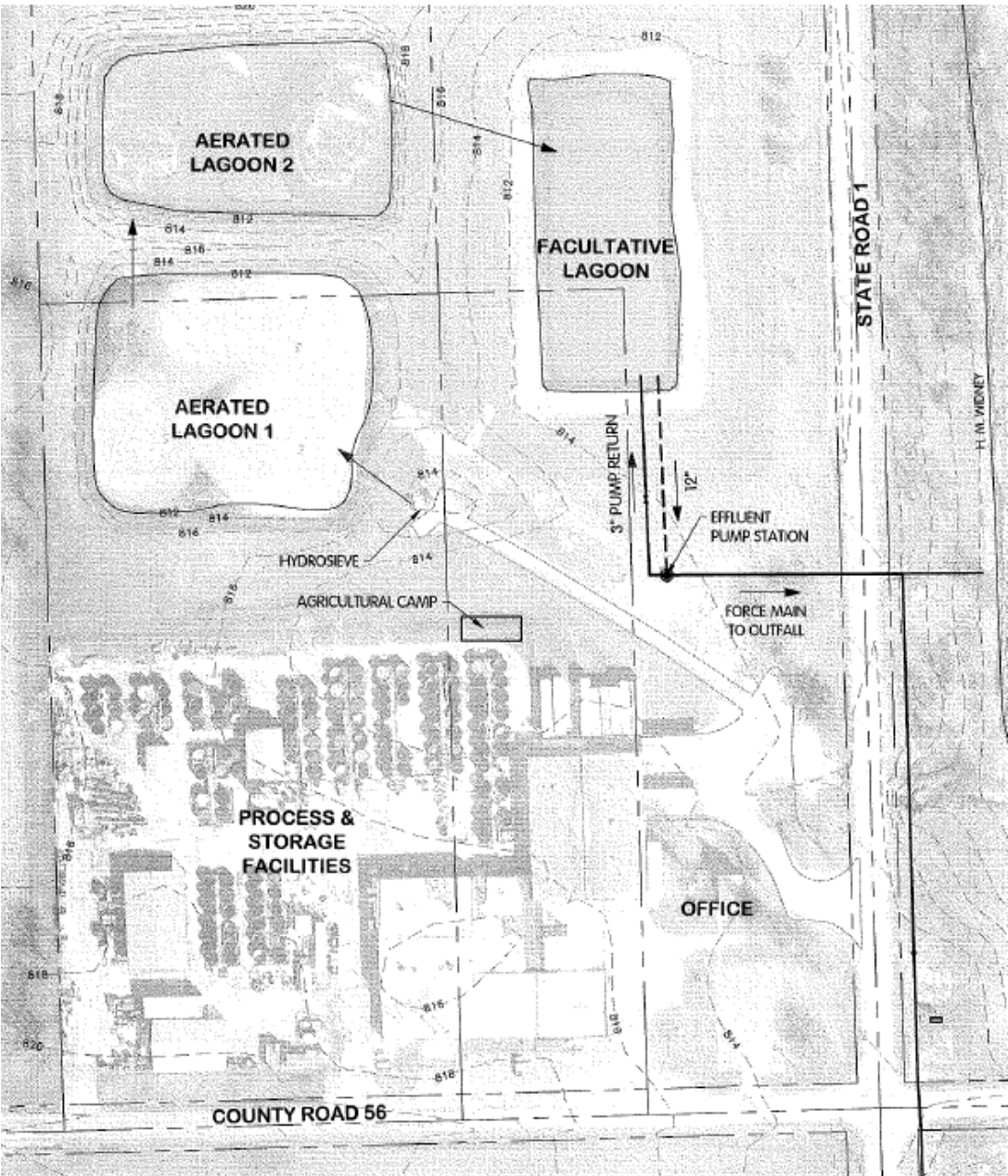
---

The receiving stream for Outfall 002 is the St. Joseph River. The  $Q_{7,10}$  low flow value of the St. Joseph River is 22 cfs and shall be capable of supporting a well-balanced, warm water aquatic community and full body contact recreation in accordance with 327 IAC 2-1.5-5.

The permittee discharges to a waterbody that has been identified as a water of the state within the Great Lakes system. Therefore, it is subject to NPDES requirements specific to Great Lakes system dischargers under 327 IAC 2-1.5 and 327 IAC 5-2-11.4 through 11.6. These rules contain water quality standards applicable to dischargers within the Great Lakes system and the procedures to calculate and incorporate water quality-based effluent limitations.

A Site Map has been included as Figure 3.

Figure 3: Site Map



7117001TOPO.DWG



**PICKLE PROPERTIES LLC**  
5686 SR 1  
ST JOE, IN 46785  
 **Jones & Henry Engineers, Ltd.**  
www.jheng.com Fluid Thinking™

## 4.1 Total Maximum Daily Loads (TMDLs)

Section 303(d) of the Clean Water Act requires states to identify waters, through their Section 305(b) water quality assessments, that do not or are not expected to meet applicable water quality standards with federal technology-based standards alone. States are also required to develop a priority ranking for these waters taking into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of impaired waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. Indiana's 2018 303(d) List of Impaired Waters was developed in accordance with Indiana's Water Quality Assessment and 303(d) Listing Methodology for Waterbody Impairments and Total Maximum Daily Load Development for the 2018 Cycle.

The St. Joseph River, Assessment-Unit IN 40500011305, HUC INJ01D5\_01, is on the 2018 303(d) list for impairments for impaired biotic communities and PCBs (fish tissue).

A TMDL for the St. Joseph River has been developed for pollutant(s) of concern. U.S. EPA under Section 303(d) of the Clean Water Act approved the St. Joseph River TMDL report on October 26, 2017, for *E. coli*, Phosphorus, and Total Suspended Solids. TMDL reports identify and evaluate water quality problems in impaired water bodies and propose solutions to bring those waters into attainment with water quality standards.

## 5.0 PERMIT LIMITATIONS

---

Under 327 IAC 5-2-10 (see also 40 CFR 122.44), NPDES permit limits are based on either TBELs (including TBELs developed on a case-by-case basis using BPJ, where applicable) or WQBELs, whichever is most stringent. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee's NPDES application, and other available information relating to the facility and the receiving waterbody. In addition, when renewing a permit, the existing permit limits and the antibacksliding requirements under 327 IAC 5-2-10(a)(11) must be considered.

### 5.1 Technology-Based Effluent Limits (TBEL)

TBELs require every individual member of a discharge class or category to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices. TBELs are developed by applying the National Effluent Limitation Guidelines (ELGs) established by EPA for specific industrial categories. Technology-based treatment requirements established pursuant to sections 301(b) and 306 of the CWA represent the minimum level of control that must be imposed in an NPDES permit (327 IAC 5-5-2(a)).

In the absence of ELGs, TBELs can also be established on a case-by-case basis using best professional judgment (BPJ) in accordance with 327 IAC 5-2-10 and 327 IAC 5-5 (which implement 40 CFR 122.44, 125.3, and Section 402(a)(1) of the Clean Water Act (CWA)).

## **Outfall 002:**

The applicable technology-based standards for the Pickle Properties, LLC are contained in 40 CFR 407 – Canned and Preserved Fruits and Vegetables Processing Point Source Category. The EPA established mass-based limitations expressed in terms of allowable pollutant discharge per unit of production or some other measure of production (i.e., production normalized). The table below provides a description of applicable subpart(s), process(es), and average daily production as included in the permit application.

### Applicable ELG Subparts and Production Levels

Outfall	Subpart	Description	Average Daily Production
002	Subpart F – Canned and Preserved Fruits Subcategory (40 CFR § 407.62)	Process wastewater originated from washing, cleaning, desalting, cooking, canning and spent brine	Fresh Pack-75,000 lbs/day Process Pack-545,000 lbs/day Salt Stations-29,000 lbs/day

Fruit processing plants employing long term waste stabilization, where all or a portion of the process wastewater discharge is stored for the entire processing season and released at a controlled rate with State approval, shall meet only the annual average BOD5 and TSS limitations. Therefore, limits for BOD5 and TSS are production-based limits.

The total discharged mass of **BOD5** during a discharge season shall not exceed the annual average value from 40 CFR 407.62. The permittee is required to calculate the annual average limitation in pounds per year (lbs/year) for BOD5 by applying the previous calendar year's production of fresh packed, process packed, and salt station product to the following formula:

$$[(p1 \times 0.53) + (p2 \times 0.68) + (p3 \times 0.15)]$$

where: p1 = fresh packed pickles in 1,000 lbs of raw fruit processed in a calendar year.  
p2 = process packed pickles in 1,000 lbs of fruit processed in a calendar year.  
p3 = salt station processed pickles in 1,000 lbs of fruit processed in a calendar year.

The total discharged mass of **TSS** during a discharge season shall not exceed the annual average value from 40 CFR 407.62. The permittee is required to calculate the annual average limitation in pounds per year (lbs/year) for TSS by applying the previous calendar year's production of fresh packed, process packed and salt station product to the following formula:

$$[(p1 \times 0.99) + (p2 \times 1.28) + (p3 \times 0.25)]$$

where: p1 = fresh packed pickles in 1,000 lbs of raw fruit processed in a calendar year.  
p2 = process packed pickles in 1,000 lbs of fruit processed in a calendar year.  
p3 = salt station processed pickles in 1,000 lbs of fruit processed in a calendar year.

## **5.2 Water Quality-Based Effluent Limits**

WQBELs are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. The WQBELs for this facility are based on water quality criteria in 327 IAC 2-1.5-8 or developed under the procedures described in 327 IAC 2-1.5-11 through 16 and implementation procedures in 327 IAC 5. Limitations are required for any parameter which has the reasonable potential to exceed a water quality criterion as determined using the procedures under 327 IAC 5-2-11.5.

## **5.3 Effluent Limitations and Monitoring Requirements by Outfall**

Under 327 IAC 5-2-10(a) (see also 40 CFR 122.44), NPDES permit requirements are technology-based effluent limitations and standards (including technology-based effluent limitations (TBELs) based on federal effluent limitations guidelines or developed on a case-by-case basis using best professional judgment (BPJ), where applicable), water quality standards-based, or based on other more stringent requirements. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee's NPDES application and other available information relating to the facility and the receiving waterbody as well as the applicable federal effluent limitations guidelines. In addition, when renewing a permit, the existing permit limits, the antibacksliding requirements under 327 IAC 5-2-10(a)(11), and the antidegradation requirements under 327 IAC 2-1.3 must be considered.

### **5.3.1 All External Outfalls (002)**

#### ***Narrative Water Quality Based Limits***

The narrative water quality criteria contained under 327 IAC 2-1.5-8(b)(1) and (2) have been included in this permit to ensure that these minimum water quality conditions are met.

#### ***Flow (Outfall 002)***

The permittee's flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2). The daily effluent flow through the diffuser must average between 0.20 MGD (139 GPM) and 0.24 MGD (167 GPM) but not be below 0.12 MGD (83 GPM) at any time.

The facility cannot discharge unless the flow in the St. Joseph River upstream of the diffuser is 100 cfs (64.6 MGD) or greater.



### **5.3.2 Outfall (002)**

#### ***Flow (Receiving Stream)***

The daily mean flow shall be obtained from the USGS Gaging Station (04178000) on the St. Joseph River near Newville, Indiana. The facility shall obtain approval from the Industrial Wastewater Permits Section prior to using another means to measure the flow in the receiving stream.

#### ***pH***

Limitations for pH in the proposed permit are based on the criteria established in 327 IAC 2-1.5-8(c)(2).

#### ***Oil and Grease (O & G)***

O & G limitations are 15 mg/l Daily Maximum and 10 mg/l Monthly Average. These limits are considered sufficient to ensure compliance with narrative water quality criteria in 327 IAC 2-1.5-8(b)(1)(C) which prohibits oil or other substances in amounts sufficient to produce color, visible sheen, odor, or other conditions in such a degree to create a nuisance.

#### ***Biochemical Oxygen Demand (BOD5)***

Limits for BOD5 are production-based limits based on 40 CFR § 407.62. The permittee shall meet only the annual average BOD5 limitations.

#### ***Total Suspended Solids (TSS)***

Limits for TSS are production-based limits based on 40 CFR § 407.62. The permittee shall meet only the annual average TSS limitations.

#### ***Ammonia, as N***

A Wasteload Allocation (WLA) report was completed on January 10, 2011 and Ammonia, as N, was evaluated for reasonable potential to exceed (RPE) a water quality criterion. The results of the RPE analysis show that Ammonia, as N, has reasonable potential to exceed a water quality criterion, therefore, water quality-based effluent limitations are required and have been included in the permit. The WLA report has been included as Appendix A.

In accordance with 327 IAC 5-2-11.6(g)(1), mass limits for Ammonia, as N, are included in the permit, based on a flow volume of 0.24 MGD. This volume represents the highest reported monthly average from the previous two-year period and is used in accordance with 327 IAC 5-2-11.4(9)(B), as required by 327 IAC 5-2-11.6(g)(2).

## **Chloride**

A Wasteload Allocation (WLA) report was completed on January 10, 2011 and Chloride was evaluated for RPE a water quality criterion. The results of the RPE analysis show that Chloride has reasonable potential to exceed a water quality criterion, therefore, water quality-based effluent limitations are required and have been included in the permit. The WLA report has been included as Appendix A.

In accordance with 327 IAC 5-2-11.6(g)(1), mass limits for Chloride are included in the permit, based on a flow volume of 0.24 MGD. This volume represents the highest reported monthly average from the previous two-year period and is used in accordance with 327 IAC 5-2-11.4(9)(B), as required by 327 IAC 5-2-11.6(g)(2).

## **Sulfate**

In accordance with 327 IAC 2-1-6(5), Surface Water Standards, "The following establishes surface water quality criteria for chloride for the protection of aquatic life: the acute criterion for chloride is based on a function of hardness (in mg/l as CaCO<sub>3</sub>) and sulfate (in mg/l) for surface waters". Based on the rule requirements, the facility shall continue to monitor for sulfate within the permit.

## ***E. coli***

Taking into consideration the St. Joseph River TMDL and status on the 2018 303(d) list, IDEM has established monitoring requirements for *E. coli* due to the sanitary component of the discharge.

## **5.4 Whole Effluent Toxicity (WET) Testing**

The permit does not contain a requirement to conduct whole effluent toxicity (WET) tests.

## **5.5 Antibacksliding**

Pursuant to 327 IAC 5-2-10(a)(11), unless an exception applies, a permit may not be renewed, reissued or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous permit. None of the limits included in this permit are less stringent than the comparable effluent limitations in the previous permit, therefore, backsliding is not an issue in accordance with 327 IAC 5-2-10(a)(11).

## 5.6 Antidegradation

Indiana's Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

The NPDES permit does not propose to establish a new or increased loading of a regulated pollutant; therefore, the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 do not apply to the permitted discharge.

## 5.7 Storm Water

The permittee has a Rule 6 general storm water permit: INRM00421.

## 5.8 Water Treatment Additives

In the event that changes are to be made in the use of water treatment additives that could significantly change the nature of or increase the discharge concentration of any of the additives contributing to an outfall governed under the permit, the permittee must apply for and obtain approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) available at: <http://www.in.gov/idem/5157.htm> and submitting any needed supplemental information. In the review and approval process, IDEM determines, based on the information submitted with the application, whether the use of any new or changed water treatment additives/chemicals or dosage rates could potentially cause the discharge from any permitted outfall to cause chronic or acute toxicity in the receiving water.

The authority for this requirement can be found under one or more of the following: 327 IAC 5-2-8(11)(B), which generally requires advance notice of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements; 327 IAC 5-2-8(11)(F)(ii), which generally requires notice as soon as possible of any planned physical alterations or additions to the permitted facility if the alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged; and 327 IAC 5-2-9(2) which generally requires notice as soon as the discharger knows or has reason to know that the discharger has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application.

There are no water treatment additives currently approved for use at the facility.

## 6.0 PERMIT DRAFT DISCUSSION

### 6.1 Discharge Limitations, Monitoring Conditions and Rationale

The proposed final effluent limitations are based on the more stringent of the Indiana water quality-based effluent limitations (WQBELs), technology-based effluent limitations (TBELs), or approved total maximum daily loads (TMDLs) and NPDES regulations as appropriate for each regulated outfall. Section 5.3 of this document explains the rationale for the effluent limitations at each Outfall.

Analytical and sampling methods used shall conform to the version of 40 CFR 136 as referenced in 327 IAC 5-2-13(d)(1) and 327 IAC 5-2-1.5.

Nothing has changed to warrant modifying the monitoring conditions. The monitoring frequency proposed is comparable to the monitoring frequencies included in permits regulating similar types of discharges.

#### Outfall 002:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow (Outfall)	Report	Report	MGD	Daily	24-Hr. Total
Flow (Receiving Stream)	Report	Report	MGD	Daily	Daily Mean
O & G	10	15	mg/l	2 X Monthly	Grab
BOD5	Report (Report)	Report (Report)	mg/l (lbs/day)	1 X Weekly	Grab
TSS	Report (Report)	Report (Report)	mg/l (lbs/day)	1 X Weekly	Grab
Ammonia, as N					
Summer	3.3 (6.6)	5.8 (12)	mg/l	2 X Monthly	Grab
Winter	5.5 (11)	9.5 (19)	(lbs/day)		
Chloride	5,400 (11,000)	9,500 (19,000)	mg/l (lbs/day)	2 X Monthly	Grab
Sulfate	Report	Report	mg/l	2 X Monthly	Grab
<i>E. coli</i>	Report	Report	cfu/100ml	2 X Monthly	Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	2 X Monthly	Grab

### 6.2 Schedule of Compliance

The circumstances in this NPDES permit do not qualify for a schedule of compliance.

### **6.3 Special Conditions and Other Permit Requirements**

There are no special conditions on this permit.

### **6.4 Spill Response and Reporting Requirement**

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.(d), Part II.B.3.(c), and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7. It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

### **6.5 Permit Processing/Public Comment**

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/5474.htm>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/6900.htm>. A 30-day comment period is available to solicit input from interested parties, including the public.

## Appendix A Wasteload Allocation

State Form 4336

### DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

#### OFFICE MEMORANDUM

Date: January 10, 2011

To: Stan Rigney, Chief  
Industrial Permits Section

From: John Elliott *JE*  
Permits Branch

Subject: Wasteload Allocation Report for Pickle Properties (Sechler's Pickles)  
in DeKalb County (IN0032981, WLA001614)

A review of an alternate acute mixing zone demonstration for chloride was done along with water quality-based effluent limitations (WQBELs) calculations and antidegradation analyses for ammonia-N and chloride. The NPDES permit for this facility was renewed September 27, 2006 with a five year schedule of compliance to meet limits for ammonia-N and chloride calculated based on a discharge to Hindman Ditch at a 3 to 1 dilution ratio. Hindman Ditch is a tributary to Bear Creek and then the St. Joseph River. The facility submitted a partial alternate acute mixing zone demonstration February 23, 1999 to move the discharge directly to St. Joseph River after the installation of an effluent diffuser and the approval of an alternate acute mixing zone for chloride. The facility was proposing to change from a seasonal (November thru April) discharge to a year-round discharge. The alternate acute mixing zone was not incorporated in the 2006 permit renewal due to the need for additional information. A seasonal discharge was continued in the 2006 permit. The facility collected the additional information and submitted a second portion of the demonstration March 26, 2008. This wasteload allocation (WLA) report constitutes the review of the mixing zone modeling portion of the demonstration. As discussed below, the effluent flow used in the WLA analysis was 0.24 mgd.

The discharge is located in the Lake Erie drainage basin so it is covered under the rules for the Great Lakes system. The St. Joseph River flows through the Cedarville Reservoir before joining St. Mary's River to become the Maumee River. The City of Fort Wayne has a public water system intake in St. Joseph River downstream of Cedarville Reservoir. The St. Joseph River is designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community. The St. Joseph River is designated as a public water supply at the point of the public water system intake. The 2008 assessment unit for St. Joseph River at the proposed outfall is INA0371\_T1059. This assessment unit is on the 2008 303(d) list for *E. coli* and PCBs in fish tissue. A TMDL has not been completed for the St. Joseph River. The Q7,10 of St. Joseph River upstream of the proposed outfall is 22 cfs and the Q1,10 is 21 cfs.

Under 327 IAC 5-2-11.4(b)(3)(B), to prevent acute toxicity, a WLA based on an acute aquatic life criterion shall be determined so that the acute criterion is not exceeded outside the zone of initial dilution and the final acute value (FAV) is not exceeded in the undiluted discharge unless a mixing zone demonstration is conducted and approved under 5-2-11.4(b)(4) in which case the acute criterion shall be met outside the applicable alternate mixing zone. According to 5-2-11.4(b)(4)(C), in no case shall an alternate mixing zone for an acute aquatic life criterion be granted unless the discharger utilizes a submerged, high rate diffuser outfall structure (or the functional equivalent) that provides turbulent initial mixing and minimizes organism exposure time. According to 5-2-11.4(b)(4)(D), in no case shall an alternate mixing zone for an acute aquatic life criterion be granted that exceeds the area where discharge-induced mixing occurs.

The area where discharge-induced mixing occurs can be defined as the area where the mixing of the discharge with the receiving water is controlled by the initial flux of the momentum and buoyancy of the discharge. The CORMIX mixing zone model is used by IDEM to define the area where discharge-induced mixing occurs (the discharge-induced mixing zone (DIMZ)) and the associated dilution factor. The dilution factor is used in 5-2-11.4(c) to calculate wasteload allocations for discharges with approved alternate acute mixing zones. The requirements for obtaining an alternate mixing zone are included in 5-2-11.4(b)(4).

This WLA report only includes a review of the mixing zone modeling portion of the demonstration and the determination of the dilution factor to be used for the calculation of wasteload allocations. The mixing zone modeling portion of the demonstration is included in the report "Mixing Zone Evaluation for the St. Joseph River at St. Joe, Indiana" by the Advent Group dated December 1998. A diffuser design is developed in this report and the dilution factor at Q7,10 conditions is determined using CORMIX with model inputs for velocity and depth derived from hydraulic data collected near the proposed diffuser location at a stream flow of 231 cfs. IDEM visited the site in September 2001 and collected stream velocity and depth information at a flow of 74 cfs. Based on the data collected by IDEM closer to the Q7,10 flow, discharge at Q7,10 conditions did not appear to be possible using the proposed diffuser design due to shallow stream conditions.

In addition to the diffuser design and mixing characteristics, the alternate mixing zone provisions under 5-2-11.4(b)(4) require the discharger to document the physical, chemical and biological characteristics of the waterbody. As part of this effort, IDEM asked the facility to conduct a mussel survey to identify any critical species and critical habitat in the vicinity of the proposed diffuser. This effort was also used to identify a location for the diffuser with adequate depth and velocity that would avoid critical species and critical habitat. This effort is included in the report "NPDES Outfall Characterization for the Proposed Sechler Pickles Outfall in the Saint Joseph River, St. Joe, Dekalb County, Indiana" by EnviroScience dated November 19, 2007.

The EnviroScience survey was done at a stream flow of 105 cfs. The EnviroScience report recommends that the diffuser be located 150 feet downstream of a fence line that was a reference point for the study. The report noted that the highest concentrations of mussels and best habitats were found upstream of the recommended location and a discharge at this location would have relatively limited potential impacts to native mussel assemblages. The IDEM Office of Water Quality Biological Studies Section in a June 22, 2009 email from Todd Davis to John Elliott of

the Office of Water Quality Permits Branch, noted that the EnviroScience proposal appeared to be satisfactory. Cross sectional depth and four velocity measurements were made by EnviroScience along the stream cross section at the recommended location.

After reviewing the 1998 Advent Group and 2007 EnviroScience reports and conducting mixing zone modeling using CORMIX, a design case for the diffuser was developed to calculate the dilution factor under critical conditions. Based on the available velocity and depth information for the St. Joseph River, the consultant for the facility (Jones & Henry Engineers) was asked whether it would be possible to limit the discharge to periods when the stream flow was 100 cfs or greater. The consultant would like the option of discharging year-round, but the discharge will not be on a continuous basis, so limiting the discharge to periods when the stream flow is at least 100 cfs was acceptable. Based on the available stream velocity measurements, the velocity is near zero in up to the first twenty feet from the bank. Therefore, the first port of the proposed multi-port diffuser must be placed a minimum of twenty feet from the bank based on the stream width at a flow of 100 cfs. IDEM recommends that diffusers be designed to achieve an exit velocity of at least 10 ft/sec from each port to ensure rapid mixing. Based on the diffuser design in the 1998 Advent report, this equates to an effluent flow of 0.24 mgd (167 gpm). This discharge rate was also acceptable to the consultant.

Using the diffuser design in the 1998 Advent report and stream velocity and depth measurements at the recommended discharge location included in the 2007 EnviroScience report, the CORMIX model (version 5.0GT) was used to determine the location of the discharge-induced mixing zone and the associated dilution factor at a critical stream flow of 100 cfs. At an effluent flow of 0.24 mgd, the diffuser will achieve a dilution factor of 24.8 at the edge of the discharge-induced mixing zone. The discharge-induced mixing zone will extend a distance of 0.91 m (3.0 feet) downstream of the outfall. The dilution factor was used in accordance with 5-2-11.4(c) to calculate the wasteload allocation based on the acute aquatic life criterion for chloride.

In summary, the following items are required to receive an alternate acute mixing zone:

- (1) The flow in the St. Joseph River upstream of the diffuser must be 100 cfs or greater prior to discharge. The USGS has a stream gage on St. Joseph River at Newville (gage number 04178000) with real-time data reported on their website that can be used to obtain upstream river flow information. The facility could also install a staff gage in St. Joseph River.
- (2) The diffuser must be installed at the location recommended in the 2007 EnviroScience report which is 150 feet downstream of the fence line.
- (3) The first port of the diffuser must be located far enough from the bank that measurable velocity is present upstream of the port. This is a minimum distance of 20 feet from the bank at the critical stream flow of 100 cfs.
- (4) The facility must obtain velocity and depth measurements immediately upstream of the diffuser after its installation when the stream flow is between 75 cfs and 150 cfs to ensure that the diffuser was located far enough from the bank to have flow across all three ports.
- (5) The effluent flow through the diffuser must consistently be near a value of 0.24 mgd. If the discharge occurs for less than 24 hours, then the flow rate must be consistently near 167 gpm.
- (6) To allow for effluent variability and to ensure that rapid mixing occurs at all times, a minimum effluent flow of 0.12 mgd (83 gpm) must also be exceeded.



The water quality-based effluent limitations for chloride based on an alternate acute mixing zone and for ammonia-N without an alternate acute mixing zone are included in Table 1 for an effluent flow of 0.24 mgd. An antidegradation analysis was done for ammonia-N and chloride since the outfall location is being moved to a different receiving stream and St. Joseph River is considered a high quality water for ammonia-N and chloride. The results of the antidegradation analysis is included in Table 2. The results show that the WQBELs for ammonia-N do not cause a significant lowering of water quality for ammonia-N, but the WQBELs for chloride do cause a significant lowering of water quality for chloride. If the WQBELs for chloride are pursued, an antidegradation demonstration would be required for chloride. Effluent limits that do not cause a significant lowering of water quality for chloride are included in Table 2. An antidegradation demonstration for chloride would not be required if the effluent limits for chloride in Table 2 are accepted. The documentation of the wasteload allocation analysis is included as an attachment.

**TABLE I**  
**Water Quality-based Effluent Limitations**  
**For Pickle Products (Sechler's Pickles) in DeKalb County**  
**(IN0032981, WLA001614)**

Parameter	Quality or Concentration		Quantity or Loading*		Monthly Sampling Frequency
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Chloride**	12,000	21,000	24,000	42,000	2
Total Ammonia (as N)					
Summer	3.3	5.8	6.6	12	2
Winter	5.5	9.5	11	19	2

\*Based on an effluent flow of 0.24 mgd.

\*\*The WQBELs for chloride are based on an alternate acute mixing zone with a dilution factor of 24.8.

1/10/2011

**TABLE 2**  
**Results of Antidegradation Procedure for Non-BCCs**  
**For Pickle Products (Sechler's Pickles) in DeKalb County**  
**(IN0032981, WLA001614)**

Parameter	High Quality Water?	Proposed Effluent Limits Cause a Significant Lowering?	Effluent Limits that Do Not Require an Antidegradation Demonstration			
			Quality or Concentration Monthly Average	Daily Maximum	Units	Quantity or Loading Monthly Average      Daily Maximum      Units
Total Ammonia (as N)						
Summer	Yes	No				
Winter	Yes	No				
Chloride	Yes	Yes	5,400	9,500	mg/l	11,000      19,000      lbs/day

1/10/2011

## Documentation of Wasteload Allocation Analysis For Discharges to the Great Lakes System

Analysis By: John Elliott *JE*  
Date: January 10, 2011  
WLA Number: 001614

### Facility Information

- **Name:** Pickle Properties (Sechler's Pickles); formerly Ralph Sechler & Son
- **NPDES Permit Number:** IN0032981
- **Permit Expiration Date:** October 31, 2011
- **County:** DeKalb
- **Purpose of Analysis:** Modification of permit to include alternate acute mixing zone for chloride.
- **Outfall:** 001
- **Facility Operations:** The facility processes and packs cucumbers, peppers, cauliflower, onions and green peppers; the discharge consists of process wastewater (waste salt brine, washing of vegetables and jars and cleanup water), boiler blow down, sanitary wastewater from a septic tank and storm water.
- **Applicable Effluent Guidelines:** 40 CFR 407.62, Subpart F – Canned and Preserved Fruits Subcategory; the pollutants regulated are BOD5 and TSS.
- **Current Permitted Flow:** 0.05 mgd (This effluent flow was used in the current (2006) permit to calculate mass limits from the concentration limits.)
- **Type of Treatment:** Wastewater is treated by a hydro-sieve to remove solid materials, then by a three stage lagoon system, the first two being aerated.
- **Current Effluent Limits:**

Discharge is limited to the period November 1 thru April 30 each year. The discharge flow rate may not exceed one-third of the upstream flow rate of the receiving stream (Hindman Ditch). The following limits are only for the pollutants of concern in this WLA analysis. The final limits apply after a five year schedule of compliance.

Parameter	Monthly Average		Daily Maximum	
	(mg/l)	(lbs/day)	(mg/l)	(lbs/day)
Interim Ammonia-N	Report	--	Report	--
Final Summer Ammonia-N	2.9	1.2	5.0	2.1
Final Winter Ammonia-N	3.1	1.3	5.3	2.2
Interim Chloride	Report	Report	Report	269 (lbs/day/cfs)
Final Chloride	358	149	621	259

- **Effluent Flow for WLA Analysis:** 0.24 mgd (this flow rate will result in an exit velocity of 10 ft/sec from the diffuser)

### Pollutants of Concern for WLA Analysis

Pollutants of Concern for WLA Analysis	
Parameter	Reason for Inclusion on Pollutants of Concern List
Ammonia-N	Effluent limits will apply following a compliance schedule.
Chloride	An alternate acute mixing zone is being proposed for chloride.

### Receiving Stream Information

- **Receiving Stream:** St. Joseph River to Cedarville Reservoir to St. Joseph River to Maumee River to Lake Erie (see Attachment 1)
- **Drainage Basin:** Lake Erie
- **Public Water System Intakes Downstream:** The City of Fort Wayne has a public water system intake in St. Joseph River downstream of Cedarville Reservoir; it was not considered in this analysis due to its location downstream of the reservoir.  
**Designated Stream Use:** St. Joseph River is designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community.
- **14-Digit HUC:** 04100003070010
- **Assessment Unit (2008):** INA0371\_T1059
- **303(d) List (2008):** Assessment unit INA0371\_T1059 is on the 2008 303(d) list for *E. coli* and PCBs in fish tissue.
- **TMDL Status:** A TMDL has not been completed for St. Joseph River in DeKalb County.
- **Q7,10 (Outfall):** 22 cfs
- **Q1,10 (Outfall):** 21 cfs

(USGS gaging station 04178000 St. Joseph River near Newville is upstream of the outfall. The drainage area of St. Joseph River at this gage is 610 mi<sup>2</sup>, the Q7,10 is 20 cfs and the Q1,10 is 19 cfs. The drainage area of St. Joseph River upstream of the outfall is about 673 mi<sup>2</sup>. The information for the gaging station was obtained from the book Low-Flow Characteristics of Indiana Streams by Kathleen K. Fowler and John T. Wilson, published in 1996 by the USGS. The drainage area upstream of the outfall was obtained from the book Drainage Areas of Indiana Streams by Richard E. Hoggatt, published in 1975 by the USGS in cooperation with the IDNR.)

- **Dilution Factor:** 24.8

The dilution factor is used in 327 IAC 5-2-11.4(c) to calculate wasteload allocations for discharges with approved alternate acute mixing zones. Alternate mixing zone demonstrations are conducted under 327 IAC 5-2-11.4(b)(4). According to 327 IAC 5-2-11.4(b)(4)(C), in no case shall an alternate mixing zone for an acute aquatic life criterion or value or for acute WET be granted unless the discharger utilizes a submerged, high rate diffuser outfall structure (or the functional equivalent) that provides turbulent initial mixing

and minimizes organism exposure time. According to 327 IAC 5-2-11.4(b)(4)(D), in no case shall an alternate mixing zone for an acute aquatic life criterion or value or for acute WET be granted that exceeds the area where discharge-induced mixing occurs. The area where discharge-induced mixing occurs can be defined as the area where the mixing of the discharge with the receiving water is controlled by the initial flux of the momentum and buoyancy of the discharge. The CORMIX mixing zone model is used by IDEM to define the area where discharge-induced mixing occurs (the discharge-induced mixing zone (DIMZ)).

Sechler Pickles contracted the Advent Group (now part of Environ) to evaluate the possibility of moving the discharge from the current location on Hindman Ditch to the St. Joseph River and applying for an alternate acute mixing zone for chloride. The evaluation is included in the report "Mixing Zone Evaluation for the St. Joseph River at St. Joe, Indiana" dated December 1998. A diffuser design is developed in the report based on a desire to have a continuous, year-round discharge with a monthly average chloride limit of 6,000 mg/l. The report recommends a three port diffuser, located ten feet from the bank discharging at a flow rate of 0.092 mgd. The diffuser would be 6 feet long and the diameter of each port would be 1.5 inches. The diffuser would be placed perpendicular to the stream flow and the ports would be located 0.5 feet above the bottom and angled upward at 30 degrees. The velocity and depth of the St. Joseph River at Q7,10 conditions were derived from a cross sectional measurement done in June 1998 by Jones & Henry Engineers when the stream flow was 231 cfs. The mixing zone modeling was done using CORMIX version 3.20 and the dilution factor was 22.9 at a distance of 0.91 m (one-half the diffuser length) downstream of the diffuser.

An initial IDEM review of the report raised concerns about the method used to scale the stream characteristics from the measured values at 231 cfs to the Q7,10 of 22 cfs. IDEM visited the site in September 2001 and made cross sectional measurements at two locations upstream of the original cross section. The first site was at a fence line that is the preferred location for the diffuser and the second site was about 100 feet downstream of the first site. The stream flow measured at these two locations was around 74 cfs. The measurements showed that the velocity near the right bank (looking downstream) is zero for up to the first twenty feet from the bank. The depth is also variable and could be much less than predicted at Q7,10 conditions in the 1998 report. The cross sectional measurements included in the 1998 report show that the stream velocity is zero for the first twenty feet from the right bank.

In addition to the diffuser design and mixing characteristics, the requirements for alternate mixing zones under 5-2-11.4(b)(4) require the discharger to document the physical, chemical and biological characteristics of the waterbody. As part of this effort, IDEM asked the facility to conduct a mussel survey to identify any critical species and critical habitat in the vicinity of the proposed discharge. This effort was also used to identify an outfall location with adequate depth and velocity that would avoid critical species and critical habitat. This effort is included in the report "NPDES Outfall Characterization for the Proposed Sechler Pickles Outfall in the Saint Joseph River, St. Joe, Dekalb County, Indiana" by EnviroScience dated November 19, 2007.

The EnviroScience survey was done in June 2007 and encompassed a segment of the river from 200 feet upstream to 450 feet downstream of the fence line. Mussel searches were done

at seven locations and cross sectional habitat surveys were done at nine locations. A complete flow cross section was done at the fence line. At the other locations, depth was measured every four feet along the cross section and at least three velocity measurements were made. A flow of 105 cfs was measured at the fence line where the complete cross section was done. The velocities and depths measured during the survey were comparable to the values IDEM obtained in 2001 at a flow of 74 cfs. A comparison of the stream hydraulic data collected in June 1998 (Jones & Henry), in 2001 (IDEM) and in 2007 (EnviroScience) is included in Attachments 2 and 3. The data collected indicate that the velocity is zero for up to the first twenty feet from the right bank.

The location recommended in the 2007 EnviroScience report is 150 feet downstream of the fence line. The report noted that the highest concentrations of mussels and best habitats were found upstream of this location and a discharge at this location would have relatively limited potential impacts to native mussel assemblages. The IDEM Office of Water Quality Biological Studies Section was asked to review the 2007 EnviroScience report. In a June 22, 2009 email from Todd Davis of the Biological Studies Section to John Elliott of the Office of Water Quality Permits Branch, Mr. Davis noted that the proposal appeared to be satisfactory.

Using the information provided in the 1998 (Advent) and 2007 (EnviroScience) reports, the CORMIX model (version 5.0GT) was used to determine the location of the DIMZ and the associated dilution factor. A summary of the inputs to the CORMIX model is included in Attachment 4. A discussion on the selection of model inputs is included below.

According to 327 IAC 5-2-11.4(b)(3)(A)(i), the stream design flow used to implement an acute aquatic life criterion is the Q1,10 flow. The Q1,10 for the St. Joseph River is 21 cfs. The available velocity and depth measurements in the vicinity of the chosen outfall location have been done at stream flows of 74 cfs, 105 cfs and 231 cfs. The available data show that the stream velocity can be near zero for up to the first twenty feet from the bank. The depth measurement at the chosen outfall location was around 3 feet at 20 feet from the bank. The facility would like to place the diffuser as close to the bank as possible. Therefore, based on the shallow nature of the stream at 105 cfs, the absence of velocity and depth information at Q1,10 conditions, and the sensitive nature of the receiving stream with respect to mussels, a minimum St. Joseph River flow of 100 cfs is being required before discharge can occur. The facility would like the option of discharging at any time year-round. The USGS has continuous flow data for the St. Joseph River upstream at Newville beginning in November 1946. Based on these flow records, and the fact that the discharge will not be required on a continual basis year-round, this minimum flow should be a reasonable requirement.

As noted above, 5-2-11.4(b)(4)(C) requires that a high rate diffuser be utilized. The term "high rate diffuser" is not defined in rule. An exit velocity of 10 ft/sec or more has been noted as a "high velocity discharge" in the U.S. EPA guidance document Technical Support Document for Water Quality-based Toxics Control, EPA 505/2-90-001, March 1991. It is IDEM policy that the discharge velocity from each port of the outfall structure be greater than the natural velocity of the waterbody in the vicinity of the port during the critical flow condition of the waterbody. This would be the Q1,10 condition (or 100 cfs for the present case) at a minimum. The exit velocity should also ensure that discharge-induced mixing

occurs at higher stream flows.

IDEM prefers that the diffuser be designed to achieve an exit velocity of at least 10 ft/sec from each port during average discharge flow conditions. The effluent from this facility will be pumped to the diffuser so the discharge rate should be relatively consistent. Therefore, for the purposes of ensuring adequate mixing and for the selection of an effluent flow for the development of WQBELs, an exit velocity of 10 ft/sec is being established. Based on the diffuser design in the 1998 Advent report, this equates to an effluent flow of 0.24 mgd (167 gpm). A minimum exit velocity of 5 ft/sec is being required to allow for variability in effluent flow and to ensure that discharge-induced mixing occurs at all times. This equates to an effluent flow of 0.12 mgd (83 gpm).

The discharge is negatively buoyant as a result of the dissolved solids (chloride) in the effluent. Data for dissolved solids in the effluent are not available. However, the facility monitors their discharge for chloride which should be the largest source of dissolved solids in the discharge. Effluent data for chloride from the last five years (2006 thru 2010) shows a high monthly average of around 3,800 mg/l and a high daily maximum of around 4,000 mg/l. The monthly average WQBEL for chloride will be around 5,000 mg/l. Therefore, a dissolved solids concentration of 6,000 mg/l was selected. Data for dissolved solids for the St. Joseph River were obtained from IDEM fixed water quality monitoring station STJ-36 St. Joseph River at S.R. 8, Newville. The geometric mean of monthly data collected from 2005 through 2009 is 343 mg/l. The data are included in Attachment 5. Since the discharge occurs mostly from January thru April, temperature conditions for calculating density were based on this time period. Effluent temperature data are not available. The discharge will travel underground for over 3,700 feet before discharging through the diffuser. Therefore, some heat dissipation will occur prior to discharge through the diffuser. A practical temperature of 10 °C was chosen for the effluent. Temperature data for the St. Joseph River were obtained from fixed station STJ-36 and are included in Attachment 6. The 75<sup>th</sup> percentile winter temperature of 6.9 °C was chosen for the St. Joseph River. The density of water at 10 °C and a dissolved solids concentration of 6,000 mg/l is 1004.42 kg/m<sup>3</sup> and the density of water at 6.9 °C and a dissolved solids concentration of 343 mg/l is 1000.21 kg/m<sup>3</sup>. Density is not a sensitive input in the mixing zone model for this type of outfall configuration in the region of interest (discharge-induced mixing zone) so a more exact characterization of the effluent density was not required.

The average velocity and depth of the St. Joseph River in the vicinity of the DIMZ during stream design flow conditions was determined using the 2007 EnviroScience cross sectional data. As discussed above, a minimum stream flow of 100 cfs will be required before discharge can occur. The stream flow was 105 cfs during the 2007 survey. At the chosen location 150 feet downstream of the fence line, only four velocity measurements were made along the cross section and only two of these were in the vicinity of the location for the proposed diffuser. At 16 feet from the bank, the velocity was 0.24 ft/sec and at 28 feet from the bank, the velocity was 0.42 ft/sec. Since these measurements are on each end of the proposed diffuser location (20 to 26 feet from the bank), the average of these measurements (0.33 ft/sec) was used. The average of the depth measurements from 16 feet to 28 feet is 3.2 feet. The total river width measured at the cross section was 80 feet. The average river depth



was 2.6 feet and the maximum river depth was 3.6 feet. The average velocity and depth at the survey flow (105 cfs) were converted to the average velocity and depth at the stream design flow (100 cfs) using the following equations:

$$\text{Velocity}_2 = \text{Velocity}_1 \times (\text{Flow}_2/\text{Flow}_1)^{0.4}$$

$$\text{Depth}_2 = \text{Depth}_1 \times (\text{Flow}_2/\text{Flow}_1)^{0.6}$$

Stream Design Flow = 100 cfs

$$\text{Velocity} = 0.33 \text{ ft/sec} \times (100 \text{ cfs}/105 \text{ cfs})^{0.4} = 0.32 \text{ ft/sec}$$

$$\text{Depth} = 3.2 \text{ ft} \times (100 \text{ cfs}/105 \text{ cfs})^{0.6} = 3.1 \text{ ft}$$

The CORMIX model printouts based on the input values in Attachment 4 are included in Attachments 7 and 8. The CORMIX model assigns a flow classification to the discharge situation and divides the mixing processes into near-field and far-field regions. The near-field region shown in Attachment 8 is analogous to the DIMZ. The near-field region extends a distance of 0.91 m (3.0 ft) downstream of the diffuser. The dilution factor at the end of the near field region is 24.8. The dilution factor is based on the average dilution.

The CORMIX output documentation recommends that a sensitivity analysis with variations of the order of 25 percent be done on ambient conditions (velocity, depth and density differences) because of the usual uncertainty in ambient environmental data and because of the schematization employed by CORMIX. The sensitivity analysis is included in Attachment 9. Variations of 50 percent were used for velocity and density. The results show that changes in velocity and depth impact the resulting dilution factor, but changes in density do not. The results also show that the size of the DIMZ does not change with changes in velocity, depth or density.

After conducting the sensitivity analysis, the model inputs for the design case appear to be reasonable. Therefore, the location of the DIMZ during critical stream flow conditions (100 cfs) and at an effluent flow of 0.24 mgd is from the diffuser to a point 0.91 m (3.0 ft) downstream and the associated dilution factor is 24.8.

- **Nearby Dischargers:** St. Joe – Spencerville RSD (IN0058441) discharges about 2.1 miles downstream at an average design flow of 0.17 mgd. This discharge will not impact this wasteload allocation analysis.

#### **Calculation of Water Quality-based Effluent Limitations**

Water quality data for St. Joseph River upstream of the outfall are available from IDEM fixed water quality monitoring station STJ-36 St. Joseph River at S.R. 8, Newville. Data were obtained from this station for the period January 2005 through December 2009. The time period chosen for the data set is based on the availability of data and the desire to have data for whole years. Data were limited to the last five years.

The background concentrations of ammonia-N and chloride were determined by calculating the geometric mean of the instream data for the pollutants (327 IAC 5-2-11.4(a)(8)). In 5-2-11.4(a)(8) a procedure is included for calculating background concentrations when the data set includes values below the limit of detection. In this procedure, values in the data set below the limit of detection (LOD) are assigned the value (V) and then the geometric mean of the data set is calculated. The value (V) is determined as follows:

$$V = (\text{LOD}) \times [1 - (\text{Number of nondetects})/(\text{Total number of values})]$$

The instream data are actually reported as less than the limit of quantitation (LOQ). Therefore, a procedure based on best professional judgment was used for the instream data. If less than one-half the values in the data set were below the LOQ, the values below the LOQ were assigned the value (V) and then the geometric mean of the data set was calculated. The value (V) was determined as follows:

$$V = (\text{LOQ}) \times [1 - (\text{Number below LOQ})/(\text{Total number of values})]$$

If one-half or more of the values in the data set were below the LOQ, the values below the LOQ were set equal to one-half the LOQ. The determination of background concentrations based on instream data is included in Attachment 10 for ammonia-N and in Attachment 5 for chloride.

According to 5-2-11.4(a)(13), the 75<sup>th</sup> percentile downstream temperature and pH are to be used to determine the ammonia-N criteria. Temperature and pH data were also obtained from fixed station STJ-36 since the discharge is not currently to the St. Joseph River. Using the last five years of data, the summer/winter 75<sup>th</sup> percentile pH values are 8.3/8.1 s.u. and the summer/winter 75<sup>th</sup> percentile temperatures are 23/6.9 °C. The data for temperature are included in Attachment 6 and the data for pH are included in Attachment 11.

The coefficient of variation used to calculate monthly average and daily maximum WQBELs was set equal to the default value of 0.6. The number of samples per month used to calculate monthly average WQBELs was set equal to 2 based on the monitoring frequency in the current permit. The spreadsheet used to calculate WQBELs for chloride based on an alternate acute mixing zone is included in Attachment 12. An alternate acute mixing zone is only being developed for chloride so the spreadsheet used to calculate WQBELs for ammonia-N without an alternate acute mixing zone is included in Attachment 13.

**Antidegradation Analysis for High Quality Waters for Non-BCCs**

New WQBELs for ammonia-N and chloride were calculated for the proposed relocation of the outfall to St. Joseph River. Significant lowering determinations for these pollutants of concern were made under 327 IAC 5-2-11.3(b)(1)(B).

**High Quality Water Determination**

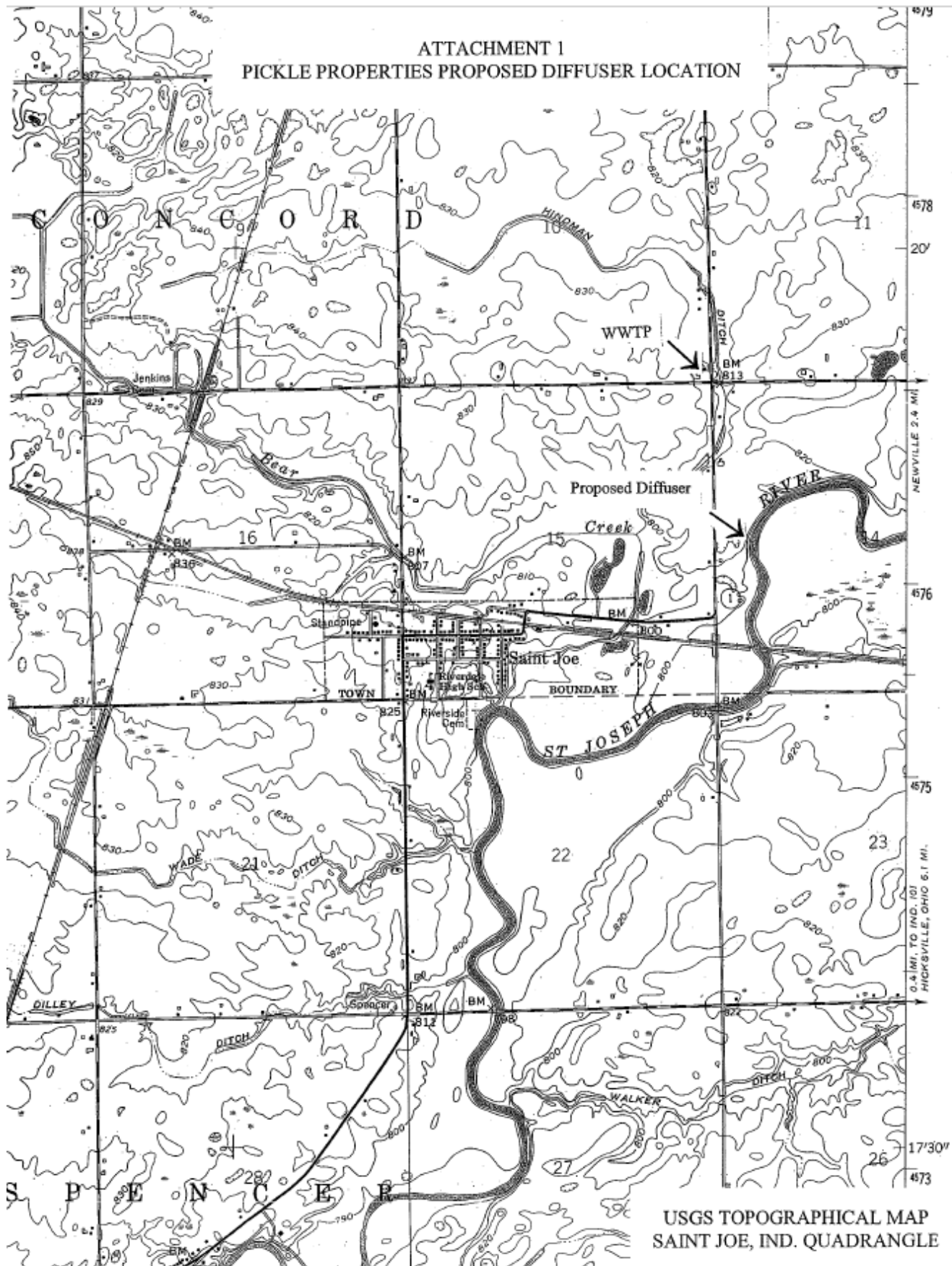
High Quality Water Determination		
Pollutant	High Quality Water? (Yes/No)	Rationale for Determination
Ammonia-N and Chloride	Yes	Available data indicate that St. Joseph River is a high quality water for these pollutants.

**Significant Lowering Determination**

**Existing Effluent Flow:** 0.0 mgd (The current discharge is to a tributary of St. Joseph River that flows for about 1.6 miles before entering St. Joseph River about 1.5 miles downstream of the proposed discharge location. Therefore, for antidegradation purposes, the existing effluent flow was set equal to zero.)

- **Results:** The results of the significant lowering determination for chloride are included in Attachment 14 and they show that the WQBELs for chloride cause a significant lowering of water quality under 5-2-11.3(b)(1)(B). Therefore, an antidegradation demonstration is required for chloride unless effluent limitations that do not cause a significant lowering are accepted. The effluent limitations that do not cause a significant lowering of water quality are monthly average/daily maximum effluent limitations of 5,400/9,500 mg/l and 11,000/19,000 lbs/day. The results of the significant lowering determination for ammonia-N are included in Attachment 15 and they show that the WQBELs for ammonia-N do not cause a significant lowering of water quality. Therefore, an antidegradation demonstration is not required for ammonia-N.

ATTACHMENT 1  
PICKLE PROPERTIES PROPOSED DIFFUSER LOCATION



USGS TOPOGRAPHICAL MAP  
SAINT JOE, IND. QUADRANGLE

**ATTACHMENT 2**  
**Velocity and Depth Measurements for St. Joseph River near Pickle Products Proposed Diffuser**

Distance from Shore (ft)	200 ft. Upstream (105 cfs)			50 ft. Upstream (105 cfs)			Fence Line EnviroScience 2007 (105 cfs)			Fence Line* IDEM 2001 (74 cfs)			50 ft. Downstream EnviroScience 2007 (105 cfs)			~50 ft. Downstream** IDEM 2001 (74 cfs)		
	Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)	
0	0.50			0.46			0.43	0		0.5	0		0.25			0.8	0.03	
4	1.20			0.94			1.03	0		1.2	0.22		1.30			2	0	
8	1.95			1.37			1.78	0.23		1.4	0.23		2.30			2.5	0	
12	2.15			1.83			2.17	0.34		1.8	0.38		2.90			2.8	0	
16	2.35	0.33		2.14	0.5		2.53	0.35		2.15	0.38		3.13	0				
20	2.45			2.34			2.66	0.45		2.2	0.52		3.30					
24	2.13			2.40			2.67	0.47		2.4	0.73		3.76			3.2	0.02	
28	1.65			2.30			2.76	0.54		2.1	0.97		4.10	0.09		3.4	0.18	
32	1.33			2.15			3.03	0.73		2.3	0.75		4.13			3.5	0.61	
36	1.16			2.10			3.21	0.73		3.0	0.50		4.00			3.5	0.80	
40	1.19			2.05			3.43	0.92		3.2	0.70		3.94					
44	1.22	1.63		2.22	0.97		3.23	1.01		3.1	0.56		3.83	0.86		3.4	0.81	
48	1.25			2.23			3.09	1.01		2.2	0.54		3.87			3.2	0.70	
52	1.30			2.20			2.64	0.88		1.5	0.50		3.75			2.6	0.57	
56	1.26			2.00			2.45	0.68		1.2	0.42		3.60			2.5	0.40	
60	1.20			2.11			2.23	0.51		1.15	0.46		3.51					
64	1.10			1.90			2.15	0.36		1.0	0.45		3.48			2.3	0.33	
68	1.02			1.75			2.06	0.16		0.8	0.48		3.33			2.3	0.19	
72	0.96	0.68		1.57	0.35		1.95	0		0.8	0.40		3.32	0.09		2.1	0.10	
76	0.92			1.54			1.65	0		0.75	0.30		1.54			1.0	0.01	
80	0.92			1.74			1.40	0		0.8	0.25		2.00			--		
84	0.87			1.60			1.15	0		0.6	0.18		0.73			--		
88	0.90			0.00			1.13	0		0.3	0.18		--			--		
92	0.74			0.00			0.40	0		0.3	0.19		--			--		
96	0.20			0.62			--			--			--			--		
100	0.58			0.90			--			--			--			--		
104	1.50			0.00			--			--			--			--		
109	0.30			--			--			--			--			--		

\*The measurements start at 2 ft. and continue every 4 ft. so measurements were placed at the nearest 2007 measurement.

\*\*The measurements start around 4 ft. and continue every 5 ft. so measurements were placed at the nearest 2007 measurement.  
 A log pile upstream influences velocity measurements for about the first 30 ft.

ATTACHMENT 3  
Velocity and Depth Measurements for St. Joseph River near Pickle Products Proposed Diffuser

Distance from Shore (ft)	100 ft. Downstream EnviroScience 2007 (105 cfs)			~100 ft. Downstream+ IDEM 2001 (74 cfs)			150 ft. Downstream EnviroScience 2007 (105 cfs)			250 ft. Downstream EnviroScience 2007 (105 cfs)			350 ft. Downstream EnviroScience 2007 (105 cfs)			450 ft. Downstream EnviroScience 2007 (105 cfs)			>150 ft. Downstream Jones & Henry 1998 (231 cfs)		
	Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)		Depth (ft)	Velocity (ft/sec)	
0																					
4	1.63			0.4	0		0.00	1.59		0.00	1.12		0.00	1.50		0.00	0.79		0	1.7	0
8	2.00			2.0	0.12		2.45	2.00		1.01	2.45		2.92	2.92		1.83	2.92		1.7	0	0
12	2.58			2.2	0.065		2.75			2.62			3.25			2.88			3.7	0	0
16	2.76	0.05		2.6	0.31		2.97		0.24	2.73	0.28		3.33		0	3.17	0.61		3.6	0	0
20	2.75			2.8	0.34		3.17			3.00			3.33	0.72		3.25			3.7	0	0
24	2.89						3.25			3.12			3.46			3.25			3.8	0.55	
28	2.98			2.9	0.41		3.32		0.42	3.21			3.33			3.25			3.9	0.77	
32	3.24			3.1	0.54		3.50			3.00	0.53		3.25	0.53		3.13	0.75		3.9	1.18	
36	3.40			3.1	0.51		3.57			3.04			3.25			3.21			3.8	1.12	
40	3.45						3.43			2.87			3.17			2.50			4	1.41	
44	3.53	0.83					3.31		0.83	2.81			3.08			2.00	0.75		3.9	1.38	
48	3.53						3.18			2.87	0.83		2.67	0.68		1.71			3.9	1.55	
52	3.17						3.30			2.71			2.25			1.67			3.5	1.42	
56	2.77						2.82			2.58			1.92			1.67			3.1	1.52	
60	2.77						2.33		0.79	2.33			1.83			1.63			2.9	1.46	
64	2.40						2.13			2.29	0.68		1.96	0.53		1.79	0.64		2.8	1.46	
68	2.38						1.85			2.29			2.08			0.67			2.8	1.23	
72	1.89	0.31					1.83			2.12			2.00						2.8	1.03	
76	0.79						1.17	0.39		0.62			1.00						2.5	0.64	
80	0.94						0.56			0.00			0.00						2	0.41	
84	0.00						--			--			--						0	0	
88	--						--			--			--						--	--	
92	--						--			--			--						--	--	
96	--						--			--			--						--	--	
100	--						--			--			--						--	--	
104	--						--			--			--						--	--	
109	--						--			--			--						--	--	

+The measurements start around 2 ft. and continue every 5 ft. so measurements were placed at the nearest 2007 measurement. Only a partial cross section was done.

**ATTACHMENT 4**  
**CORMIX 2 (Multi-Port) Model Inputs**  
**For Pickle Products (IN0032981) Alternate Acute Mixing Zone**

Parameter	Units	Value	Rationale
<b>Effluent</b>			
Average Flow	mgd	0.24	Based on the effluent flow (167 gpm) to achieve an exit velocity of 10 ft/sec.
WQBEL Flow	mgd	0.24	Same as average flow. Effluent will be pumped to the diffuser at a consistent rate.
Pollutant Type	--	Conservative	The pollutant of concern is chloride.
Density	kg/m <sup>3</sup>	1004.42	Based on Temperature of 10 °C and TDS concentration of 6,000 mg/l.
<b>Ambient</b>			
Average Depth	feet	3.1	Set equal to depth at discharge.
Depth at Discharge	feet	3.1	Based on 2007 cross section measurements from 16 ft. to 28 ft. from shore.
Wind Speed	m/sec	2	--
Velocity	ft/sec	0.32	Based on 2007 cross section measurements at 16 ft. and 28 ft. from shore.
Temperature/Density Profile	--	Uniform	--
Density	kg/m <sup>3</sup>	1000.21	Based on Temperature of 6.9 °C and TDS concentration of 343 mg/l.
Boundary Conditions	--	Bounded	--
Width	feet	80	Based on 2007 cross sectional measurement at proposed outfall location.
Channel Roughness (Manning's n)	--	0.04	--
<b>Discharge</b>			
Diffuser Length	feet	6	Based on diffuser design in December 1998 report.
Distance from Shore to 1st Port	feet	20	IDEM minimum requirement since velocity in the first 20 ft. is near zero.
Distance from Shore to Last Port	feet	26	--
Port Height above Bottom	feet	0.5	Based on diffuser design in December 1998 report.
Port Diameter	inches	1.5	Based on diffuser design in December 1998 report.
Number of Ports	#	3	Based on diffuser design in December 1998 report.
Exit Velocity at Average Flow	ft/sec	10	Based on diffuser design in December 1998 report.
Exit Velocity at WQBEL Flow	ft/sec	10	Based on diffuser design in December 1998 report.
Alignment Angle (gamma)	degrees	90	Calculated value based on 3 ports, the port diameter and the effluent flow.
Port Vertical Angle (theta)	degrees	30	--
Port Horizontal Angle (sigma)	degrees	0	Based on diffuser design in December 1998 report.
Relative Orientation Angle (beta)	degrees	90	Based on diffuser design in December 1998 report.

**ATTACHMENT 5**  
**Calculation of Background Concentrations**  
**Data From Fixed Station STJ-36, St. Joseph River at S.R. 8, Newville**

Date	Chloride (mg/l)	Total Dissolved Solids (mg/l)
1/24/2005	23	283
2/15/2005	16	226
3/2/2005	28	309
4/4/2005	27	325
5/3/2005	34	377
6/9/2005	34	400
7/27/2005	46	335
8/10/2005	46	444
9/7/2005	49	447
10/26/2005	52	445
11/7/2005	46	428
1/19/2006	26	313
2/6/2006	28	303
3/6/2006	31	386
4/25/2006	32	378
5/30/2006	28	392
6/15/2006	33	439
7/13/2006	19	282
8/8/2006	28	363
9/20/2006	43	414
10/4/2006	34	373
11/27/2006	28	383
12/4/2006	18	254
1/24/2007	23	307
3/22/2007	25	266
4/4/2007	29	336
5/3/2007	20	290
6/13/2007	31	389
7/5/2007	43	408
8/8/2007	62	422
9/20/2007	30	413
10/30/2007	38	412
11/28/2007	40	346
12/13/2007	27	255
1/2/2008	28	362
2/7/2008	12	155
3/18/2008	17	219
4/17/2008	19	276
5/7/2008	24	330
6/2/2008	25	365
7/2/2008	28	386
8/7/2008	34	411
9/3/2008	33	404
10/1/2008	30	391
11/12/2008	33	400
12/2/2008	34	395
1/12/2009	28	348
2/26/2009	28	335
3/24/2009	18	269
4/15/2009	16	269
5/5/2009	21	302
6/4/2009	21	331
7/14/2009	25	366
8/18/2009	37	372
9/2/2009	27	352
10/14/2009	30	358
11/5/2009	23	362
12/3/2009	32	371
Geomean	29	343



**ATTACHMENT 6**  
**Calculation of Water Quality Characteristics**  
**Data From Fixed Station STJ-36, St. Joseph River at S.R. 8, Newville**

<b>Summer</b>		<b>Winter</b>	
<b>Date</b>	<b>Temperature (°C)</b>	<b>Date</b>	<b>Temperature (°C)</b>
5/3/2005	9.4	12/20/2004	0.21
6/9/2005	25.04	1/24/2005	0.9
7/27/2005	23.4	2/15/2005	1.77
8/10/2005	24	3/2/2005	1.51
9/7/2005	19.3	4/4/2005	9.69
10/26/2005	8.9	1/19/2006	2.80
11/7/2005	11.61	2/6/2006	2.33
5/30/2006	23.44	3/6/2006	3.25
6/15/2006	20.41	4/25/2006	14.28
7/13/2006	23.22	12/4/2006	0.87
8/8/2006	23.37	1/24/2007	1.45
9/20/2006	15.46	3/22/2007	7.9
10/4/2006	16.58	4/4/2007	10.63
11/27/2006	7.26	12/13/2007	2.87
5/3/2007	16.05	1/2/2008	0.35
6/13/2007	22.68	2/7/2008	0.47
7/5/2007	23.46	3/18/2008	2.3
8/8/2007	24.66	4/17/2008	14.07
9/20/2007	17.94	12/2/2008	0.79
10/30/2007	9.93	1/12/2009	0.73
11/28/2007	3.6	2/26/2009	1.89
5/7/2008	16.25	3/24/2009	7
6/2/2008	19.66	4/15/2009	6.8
7/2/2008	21.1		
8/7/2008	22.63	<b>75th %</b>	<b>6.9</b>
9/3/2008	23.81		
10/1/2008	15.08		
11/12/2008	6.11		
5/5/2009	15.36		
6/4/2009	16.68		
7/14/2009	19.5		
8/18/2009	21.83		
9/2/2009	16.1		
10/14/2009	9.22		
11/5/2009	8.19		
<b>75th %</b>	<b>23</b>		

# ATTACHMENT 7

CORMIX SESSION REPORT:  
XX  
CORMIX MIXING ZONE EXPERT SYSTEM  
CORMIX Version 5.0G2  
HYD802:Version March,2007

SITE NAME/LABEL: Pickle Properties (Sechler's Pickles)  
DESIGN CASE: Case 1  
FILE NAME: C:\Program Files\CORMIX 5.0\MyFiles\Pickle Properties Design Case.prd  
Using subsystem CORMIX2: Multipoint Diffuser Discharges  
Start of session: 01/10/2011--16:36:13  
\*\*\*\*\*

SUMMARY OF INPUT DATA:

AMBIENT PARAMETERS:

Cross-section		= bounded
Width	BS	= 24.38 m
Channel regularity	ICHRG	= 1
Ambient flowrate	QA	= 2.25 m <sup>3</sup> /s
Average depth	EA	= 0.94 m
Depth at discharge	ED	= 0.94 m
Ambient velocity	UA	= 0.0975 m/s
Darcy-Weisbach friction factor	F	= 0.1279
Calculated from Manning's n		= 0.04
Wind velocity	UN	= 2 m/s
Stratification Type	STRCHD	= U
Surface density	RHOAS	= 1000.21 kg/m <sup>3</sup>
Bottom density	RHOAB	= 1000.21 kg/m <sup>3</sup>

DISCHARGE PARAMETERS:

Submerged Multipoint Diffuser Discharge		
Diffuser type	DIITYPE	= unidirectional perpendicular
Diffuser length	LD	= 1.83 m
Nearest bank		= right
Diffuser endpoints	YB1	= 6.10 m      YB2 = 7.92 m
Number of openings	NOFEN	= 3
Number of Risers	NRISER	= 3
Ports/Nozzles per Riser	NTPERS	= 1
Spacing between risers/openings	SPAC	= 0.91 m
Port/Nozzle diameter	D0	= 0.0381 m
with contraction ratio		= 1
Equivalent slot width	B0	= 0.0019 m
Total area of openings	TRA0	= 0.0034 m <sup>2</sup>
Discharge velocity	U0	= 3.07 m/s
Total discharge flowrate	Q0	= 0.010515 m <sup>3</sup> /s
Discharge port height	H0	= 0.15 m
Nozzle arrangement	BETTYPE	= unidirectional without fanning
Diffuser alignment angle	GRMMA	= 90 deg
Vertical discharge angle	THETA	= 30 deg
Actual Vertical discharge angle	THETA	= 30 deg
Horizontal discharge angle	SIGMA	= 0 deg
Relative orientation angle	BETA	= 90 deg
Discharge density	REO0	= 1004.42 kg/m <sup>3</sup>
Density difference	DEBO	= -4.2100 kg/m <sup>3</sup>
Buoyant acceleration	GP0	= -0.0413 m/s <sup>2</sup>
Discharge concentration	CO	= 100 %
Surface heat exchange coeff.	KS	= 0 m/s
Coefficient of decay	KD	= 0 /s

FLUX VARIABLES PER UNIT DIFFUSER LENGTH:

Discharge (volume flux)	q0	= 0.005750 m <sup>2</sup> /s
Momentum flux	m0	= 0.017676 m <sup>3</sup> /s <sup>2</sup>
Buoyancy flux	j0	= -0.000237 m <sup>3</sup> /s <sup>3</sup>

DISCHARGE/ENVIRONMENT LENGTH SCALES:

LQ = 0.00 m	Lm = 1.86 m	LM = 4.60 m
ln' = 99999 m	lb' = 99999 m	La = 99999 m

(These refer to the actual discharge/environment length scales.)

NON-DIMENSIONAL PARAMETERS:

Slot Froude number	FR0	= 349.90
Port/nozzle Froude number	FRD0	= 77.52
Velocity ratio	R	= 31.52

MIXING ZONE / TOXIC DILUTION ZONE / AREA OF INTEREST PARAMETERS:

Toxic discharge	= no
Water quality standard specified	= no
Regulatory mixing zone	= no
Region of interest	= 500 m downstream

\*\*\*\*\*

HYDRODYNAMIC CLASSIFICATION:

\*-----\*

| FLOW CLASS = M0U7 |

\*-----\*

This flow configuration applies to a layer corresponding to the full water depth at the discharge site.

Applicable layer depth = water depth = 0.94 m  
 \*\*\*\*\*  
 MIXING ZONE EVALUATION (hydrodynamic and regulatory summary):  
 -----

X-Y-Z Coordinate system:  
 Origin is located at the bottom below the port center:  
 7.01 m from the right bank/shore.  
 Number of display steps NSTEP = 20 per module.  
 -----

NEAR-FIELD REGION (NFR) CONDITIONS:  
 Note: The NFR is the zone of strong initial mixing. It has no regulatory implication. However, this information may be useful for the discharge designer because the mixing in the NFR is usually sensitive to the discharge design conditions.  
 Pollutant concentration at NFR edge c = 4.0263 %  
 Dilution at edge of NFR s = 24.8  
 NFR Location: x = 0.91 m  
 (centerline coordinates) y = 0 m  
 z = 0 m  
 NFR plume dimensions: half-width (bb) = 0.66 m  
 thickness (bv) = 0.94 m  
 Cumulative travel time: 4.1316 sec.  
 -----

Buoyancy assessment:  
 The effluent density is greater than the surrounding ambient water density at the discharge level.  
 Therefore, the effluent is **NEGATIVELY BUOYANT** and will tend to sink towards the bottom.  
**IMPORTANT NOTE:**  
 Since the effluent is **NEGATIVELY-BUOYANT**, it is **STRONGLY** recommended that you consider using the Brine or Sediment options for Effluent specification for a more detailed analysis.

CORMIX will however continue with the current simulation.  
 -----

Near-field instability behavior:  
 The diffuser flow will experience instabilities with full vertical mixing in the near-field.  
 There may be benthic impact of high pollutant concentrations.  
 -----

FAR-FIELD MIXING SUMMARY:  
 Plume is vertically fully mixed WITHIN NEAR-FIELD (or a fraction thereof), but RE-STRATIFIES LATER.  
 Plume becomes vertically fully mixed again at 76.50 m downstream.  
 -----

PLUME BANK CONTACT SUMMARY:  
 Plume in bounded section contacts one bank only at 44.32 m downstream.  
 \*\*\*\*\* TOXIC DILUTION ZONE SUMMARY \*\*\*\*\*  
 No TDS was specified for this simulation.  
 \*\*\*\*\* REGULATORY MIXING ZONE SUMMARY \*\*\*\*\*  
 No RME and no ambient water quality standard have been specified.  
 \*\*\*\*\* FINAL DESIGN ADVICE AND COMMENTS \*\*\*\*\*  
 CORMIX2 uses the TWO-DIMENSIONAL SLOT DIFFUSER CONCEPT to represent the actual three-dimensional diffuser geometry. Thus, it approximates the details of the merging process of the individual jets from each port/nozzle.  
 In the present design, the spacing between adjacent ports/nozzles (or riser assemblies) is of the order of, or less than, the local water depth so that the slot diffuser approximation holds well.

Nevertheless, if this is a final design, the user is advised to use a final CORMIX1 (single port discharge) analysis, with discharge data for an individual diffuser jet/plume, in order to compare to the present near-field prediction.  
 -----

REMINDER: The user must take note that HYDRODYNAMIC MODELING by any known technique is NOT AN EXACT SCIENCE.  
 Extensive comparison with field and laboratory data has shown that the CORMIX predictions on dilutions and concentrations (with associated plume geometries) are reliable for the majority of cases and are accurate to within about +/-50% (standard deviation).  
 As a further safeguard, CORMIX will not give predictions whenever it judges the design configuration as highly complex and uncertain for prediction.

## ATTACHMENT 8

```
CORRMIX2 PREDICTION FILE:  
*****  
CORRMIX MIXING ZONE EXPERT SYSTEM  
Subsystem CORRMIX2: Multiport Diffuser Discharges  
CORRMIX Version 5.0GT  
HYDRO2 Version 5.0.0.0 March 2007
```

### CASE DESCRIPTION

```
Site name/label: Pickle Properties (Sechler's Pickles)
Design case: Case 1
FILE NAME: C:\...MIX 5.0\MyFiles\Pickle Properties Design Case.prd
Time stamp: Mon Jan 10 16:36:13 2011
```

## ENVIRONMENT PARAMETERS (metric units)

```

Bounded section
RS = 24.38 AS = 23.04 QA = 2.25 ICHREG= 1
HA = 0.94 HD = 0.94
UA = 0.098 F = 0.128 USTAR =0.1233E+01
UN = 2.000 UNSTAR=0.219E+02
Uniform density histogram
STXCHD= U BROWM = 1000.2100

```

DIFFUSER DISCHARGE PARAMETERS (metric units)

```

Diffuser type:      DITYPE=unidirectional_perpendicular
MARK = RIGHT       DISTRB = 7.01 YB1 = 6.10 YB2 = 7.92
LD = 1.03          NOFEN = 3 SPAC = 0.91
DO = 0.038 AO = 0.001 HO = 0.15 SUBO = 0.79
Nozzle/port arrangement: unidirectional_without_fanning
GMAIR = 90.00 THETA = 30.00 SIGMA = 0.00 BETA = 90.00
UD = 3.074 QO = 0.011 =0.1052E-01
RHOO = 1004.4200 DRHOO =-.4210E+01 GP0 =-.4128E-01
CO = 0.0000E+03 CENITS = 3
IPOLL = 1          KE =0.0000E+00 KD =0.0000E+00

```

FLUX VARIABLES - PER UNIT DIFFUSER LENGTH (metric units)

```

q0      =0.5750E-02  m0      =0.1768E-01  j0      =-.2373E-03  SIGKJ0=    -1.0
Associated 2-d length scales (meters)
lq=B     =    0.002  lM      =    4.60  lN      =    1.86
lmp      = 99999.00  lbp     = 99999.00  la       = 99999.00

```

FLUX VARIABLES = ENTIRE DIFFUSER (metric units)

Q0 = 0.1052E-01 M0 = -0.3233E-01 J0 = -.4340E-03  
 Associated 3-d length scales (meters)  
 LQ = 0.03 LM = 3.66 Lm = 1.84 Lb = 0.47  
 Lmo = 99999.00 Lkm = 99999.00

### NON-DIMENSIONAL PARAMETERS

```
FRD = 349.90 FRB0 = 77.52 R = 33.52 FL = 140.
(slot) (port/nozzle)
```

## RECOMPUTED SOURCE CONDITIONS FOR RISER GROUPS:

```

Properties of riser group with 1 ports/nozzles each:
U0   = 3.074 D0   = 0.038 A0   = 0.001 THETA = 30.00
PR0  = 349.90 PRD0 = 77.52 R    = 31.52
(slot) (riser group)

```

FLOW CLASSIFICATION

[illegible]

## MIXING ZONE / TOXIC DILUTION / REGION OF INTEREST PARAMETERS

```
CO      =0.1000E+03  CUNITS= 1
NTOX   = 0
NSTD   = 0
REGME  = 0
XINT   =    500.00  XMAX   =    500.00
```

## X-Y-Z COORDINATE SYSTEM:

ORIGIN is located at the bottom and the diffuser mid-point:  
7.01 m from the RIGHT bank/shore.  
X-axis points downstream, Y-axis points to left, Z-axis points upward.  
NSTEP = 20 display intervals per module

BEGIN MOD201: DIFFUSER DISCHARGE MODULE

Due to complex near-field motions: EQUIVALENT SLOT DIFFUSER (2-D) GEOMETRY

Profile definitions:

BV = Gaussian 1/e (37%) half-width, in vertical plane normal to trajectory  
BH = top-hat half-width, in horizontal plane normal to trajectory

S = hydrodynamic centerline dilution  
C = centerline concentration (includes reaction effects, if any)

X	Y	Z	S	C	BV	BH
0.00	0.00	0.15	1.0	0.100E+03	0.00	0.91

END OF MOD201: DIFFUSER DISCHARGE MODULE

---

BEGIN MOD271: ACCELERATION ZONE OF UNIDIRECTIONAL CO-FLOWING DIFFUSER

In this laterally contracting zone the diffuser plume becomes VERTICALLY FULLY MIXED over the entire layer depth (HS = 0.94m).  
Full mixing is achieved after a plume distance of about five layer depths from the diffuser.

Profile definitions:  
BV = layer depth (vertically mixed)  
BH = top-hat half-width, in horizontal plane normal to trajectory  
S = hydrodynamic average (bulk) dilution  
C = average (bulk) concentration (includes reaction effects, if any)

X	Y	Z	S	C	BV	BH
0.00	0.00	0.15	1.0	0.100E+03	0.00	0.91
0.05	0.00	0.17	6.3	0.158E+02	0.05	0.88
0.09	0.00	0.18	8.5	0.117E+02	0.09	0.85
0.14	0.00	0.20	10.2	0.977E+01	0.14	0.82
0.18	0.00	0.22	11.7	0.858E+01	0.19	0.80
0.23	0.00	0.23	12.9	0.774E+01	0.24	0.78
0.27	0.00	0.25	14.1	0.711E+01	0.28	0.76
0.32	0.00	0.26	15.1	0.662E+01	0.33	0.74
0.37	0.00	0.28	16.1	0.622E+01	0.38	0.73
0.41	0.00	0.30	17.0	0.589E+01	0.43	0.72
0.46	0.00	0.31	17.9	0.560E+01	0.47	0.71
0.50	0.00	0.33	18.7	0.535E+01	0.52	0.70
0.55	0.00	0.34	19.5	0.514E+01	0.57	0.69
0.59	0.00	0.36	20.2	0.495E+01	0.61	0.68
0.64	0.00	0.38	20.9	0.477E+01	0.66	0.67
0.69	0.00	0.39	21.6	0.462E+01	0.71	0.67
0.73	0.00	0.41	22.3	0.448E+01	0.76	0.67
0.78	0.00	0.42	23.0	0.435E+01	0.80	0.66
0.82	0.00	0.44	23.6	0.423E+01	0.85	0.66
0.87	0.00	0.46	24.2	0.413E+01	0.90	0.66
0.91	0.00	0.47	24.8	0.403E+01	0.94	0.66

Cumulative travel time = 4.1316 sec  
Plume centerline may exhibit slight discontinuities in transition to subsequent far-field module.

END OF MOD271: ACCELERATION ZONE OF UNIDIRECTIONAL CO-FLOWING DIFFUSER

---

BEGIN MOD251: DIFFUSER PLUME IN CO-FLOW

Phase 1: Vertically mixed, Phase 2: Re-stratified

Phase 1: The diffuser plume is VERTICALLY FULLY MIXED over the entire layer depth.  
This flow region is INSIGNIFICANT in spatial extent and will be by-passed.

Phase 2: The flow has RESTRATIFIED at the beginning of this zone.  
This flow region is INSIGNIFICANT in spatial extent and will be by-passed.

END OF MOD251: DIFFUSER PLUME IN CO-FLOW

---

\*\* End of NEAR-FIELD REGION (NFR) \*\*

The initial plume WIDTH values in the next far-field module will be CORRECTED by a factor 2.14 to conserve the mass flux in the far-field!  
The correction factor is quite large because of the small ambient velocity relative to the strong mixing characteristics of the discharge!  
This indicates localized RECIRCULATION REGIONS and internal hydraulic JUMPS.  
Width predictions show discontinuities, dilution values should be acceptable.

---

BEGIN MOD241: BUOYANT AMBIENT SPREADING

Profile definitions:  
BV = top-hat thickness, measured vertically  
BH = top-hat half-width, measured horizontally in y-direction  
ZU = upper plume boundary (Z-coordinate)  
ZL = lower plume boundary (Z-coordinate)  
S = hydrodynamic average (bulk) dilution  
C = average (bulk) concentration (includes reaction effects, if any)

Plume Stage 1 (not bank attached):

X	Y	Z	S	C	BV	BH	ZU	ZL
0.91	0.00	0.00	24.8	0.403E+01	0.94	1.41	0.94	0.00
3.08	0.00	0.00	27.1	0.369E+01	0.75	1.94	0.75	0.00
5.26	0.00	0.00	29.0	0.345E+01	0.65	2.38	0.65	0.00
7.43	0.00	0.00	30.6	0.326E+01	0.59	2.78	0.59	0.00
9.60	0.00	0.00	32.3	0.310E+01	0.55	3.13	0.55	0.00
11.77	0.00	0.00	34.0	0.294E+01	0.53	3.46	0.53	0.00
13.94	0.00	0.00	35.8	0.279E+01	0.51	3.77	0.51	0.00
16.11	0.00	0.00	37.7	0.265E+01	0.50	4.06	0.50	0.00
18.28	0.00	0.00	39.8	0.251E+01	0.49	4.33	0.49	0.00
20.45	0.00	0.00	42.0	0.238E+01	0.49	4.59	0.49	0.00
22.62	0.00	0.00	44.4	0.225E+01	0.49	4.84	0.49	0.00
24.79	0.00	0.00	46.9	0.213E+01	0.50	5.09	0.50	0.00
26.96	0.00	0.00	49.7	0.201E+01	0.50	5.32	0.50	0.00
29.13	0.00	0.00	52.6	0.190E+01	0.51	5.55	0.51	0.00
31.30	0.00	0.00	55.7	0.179E+01	0.52	5.77	0.52	0.00
33.47	0.00	0.00	59.1	0.169E+01	0.53	5.99	0.53	0.00
35.64	0.00	0.00	62.6	0.160E+01	0.54	6.20	0.54	0.00
37.81	0.00	0.00	66.3	0.151E+01	0.56	6.41	0.56	0.00
39.98	0.00	0.00	70.3	0.142E+01	0.57	6.61	0.57	0.00
42.15	0.00	0.00	74.5	0.134E+01	0.59	6.81	0.59	0.00
44.32	0.00	0.00	78.9	0.127E+01	0.60	7.01	0.60	0.00

Cumulative travel time = 447.1294 sec

Plume is ATTACHED to RIGHT bank/shore.  
 Plume width is now determined from RIGHT bank/shore.

Plume Stage 2 (bank attached):

X	Y	Z	S	C	BV	BH	ZU	ZL
44.32	-7.01	0.00	78.9	0.127E+01	0.60	14.02	0.60	0.00
45.93	-7.01	0.00	82.0	0.122E+01	0.62	14.13	0.62	0.00
47.54	-7.01	0.00	85.2	0.117E+01	0.64	14.23	0.64	0.00
49.15	-7.01	0.00	88.4	0.113E+01	0.66	14.34	0.66	0.00
50.76	-7.01	0.00	91.7	0.109E+01	0.68	14.44	0.68	0.00
52.37	-7.01	0.00	95.0	0.105E+01	0.70	14.55	0.70	0.00
53.98	-7.01	0.00	98.4	0.102E+01	0.72	14.65	0.72	0.00
55.59	-7.01	0.00	101.8	0.982E+00	0.74	14.76	0.74	0.00
57.19	-7.01	0.00	105.3	0.950E+00	0.76	14.87	0.76	0.00
58.80	-7.01	0.00	108.8	0.919E+00	0.78	14.97	0.78	0.00
60.41	-7.01	0.00	112.4	0.889E+00	0.80	15.08	0.80	0.00
62.02	-7.01	0.00	116.1	0.862E+00	0.82	15.19	0.82	0.00
63.63	-7.01	0.00	119.8	0.835E+00	0.84	15.30	0.84	0.00
65.24	-7.01	0.00	123.5	0.810E+00	0.86	15.40	0.86	0.00
66.85	-7.01	0.00	127.3	0.785E+00	0.88	15.51	0.88	0.00
68.45	-7.01	0.00	131.2	0.762E+00	0.90	15.62	0.90	0.00
70.06	-7.01	0.00	135.1	0.740E+00	0.92	15.73	0.92	0.00
71.67	-7.01	0.00	139.1	0.719E+00	0.94	15.84	0.94	0.00
73.28	-7.01	0.00	143.1	0.699E+00	0.94	15.95	0.94	0.00
74.89	-7.01	0.00	147.2	0.679E+00	0.94	16.06	0.94	0.00
76.50	-7.01	0.00	151.4	0.661E+00	0.94	16.17	0.94	0.00

Cumulative travel time = 775.4475 sec

END OF MOD241: BUOYANT AMBIENT SPREADING

BEGIN MOD261: PASSIVE AMBIENT MIXING IN UNIFORM AMBIENT

Vertical diffusivity (initial value) = 0.234E-02 m<sup>2</sup>/s  
 Horizontal diffusivity (initial value) = 0.292E-02 m<sup>2</sup>/s

The passive diffusion plume is VERTICALLY FULLY MIXED at beginning of region.

Profile definitions:

BV = Gaussian s.d.\*sqrt(pi/2) (46%) thickness, measured vertically  
 = or equal to layer depth, if fully mixed  
 BH = Gaussian s.d.\*sqrt(pi/2) (46%) half-width,  
 measured horizontally in Y-direction  
 ZU = upper plume boundary (Z-coordinate)  
 ZL = lower plume boundary (Z-coordinate)  
 S = hydrodynamic centerline dilution  
 C = centerline concentration (includes reaction effects, if any)

Plume Stage 2 (bank attached):

X	Y	Z	S	C	BV	BH	ZU	ZL
76.50	-7.01	0.00	151.4	0.661E+00	0.94	16.17	0.94	0.00
97.67	-7.01	0.00	151.9	0.658E+00	0.94	16.23	0.94	0.00
118.85	-7.01	0.00	152.5	0.656E+00	0.94	16.29	0.94	0.00
140.02	-7.01	0.00	153.1	0.653E+00	0.94	16.35	0.94	0.00
161.20	-7.01	0.00	153.6	0.651E+00	0.94	16.41	0.94	0.00
182.37	-7.01	0.00	154.2	0.649E+00	0.94	16.47	0.94	0.00
203.55	-7.01	0.00	154.8	0.646E+00	0.94	16.53	0.94	0.00
224.72	-7.01	0.00	155.3	0.644E+00	0.94	16.59	0.94	0.00

[illegible]

**ATTACHMENT 9**  
**CORMIX Sensitivity Analysis**  
**For Effluent Flow of 0.24 mgd**

<b>CORMIX Sensitivity Analysis with Ambient Velocity</b>			
<b>Model Result</b>	<b>Velocity (ft/sec)</b>		
	<b>0.32 (design case)</b>	<b>0.48 (plus 50%)</b>	<b>0.16 (minus 50%)</b>
Dilution Factor	24.8	31.1	19.3
Flow Classification	MNU7	MNU7	MNU7
Length of DIMZ (ft)	3.0	3.0	3.0

<b>CORMIX Sensitivity Analysis with Ambient Depth</b>			
<b>Model Result</b>	<b>Depth (ft)</b>		
	<b>3.1 (design case)</b>	<b>3.9 (plus 25%)</b>	<b>2.3 (minus 25%)</b>
Dilution Factor	24.8	29.5	20.0
Flow Classification	MNU7	MNU7	MNU7
Length of DIMZ (ft)	3.0	3.0	3.0

<b>CORMIX Sensitivity Analysis with Ambient Velocity and Depth</b>			
<b>Model Result</b>	<b>Velocity (ft/sec) / Depth (ft)</b>		
	<b>0.32 / 3.1 (design case)</b>	<b>0.48 / 3.9 (plus 50/25%)</b>	<b>0.16 / 2.3 (minus 50/25%)</b>
Dilution Factor	24.8	37.6	16.1
Flow Classification	MNU7	MNU7	MNU7
Length of DIMZ (ft)	3.0	3.0	3.0

<b>CORMIX Sensitivity Analysis with Effluent Density</b>			
<b>Model Result</b>	<b>Effluent Density (kg/m<sup>3</sup>)</b>		
	<b>1004.42 (design case)</b>	<b>1006.75 (50% increase in TDS)</b>	<b>1002.08 (50% decrease in TDS)</b>
Dilution Factor	24.8	24.8	24.8
Flow Classification	MNU7	MNU7	MNU7
Length of DIMZ (ft)	3.0	3.0	3.0



**ATTACHMENT 10**  
**Calculation of Background Concentrations**  
**Data From Fixed Station STJ-36, St. Joseph River at S.R. 8, Newville**

	Summer	Adjusted Summer		Winter	Adjusted Winter
Date	Ammonia-N (mg/l)	Ammonia-N (mg/l)	Date	Ammonia-N (mg/l)	Ammonia-N (mg/l)
5/3/2005	< 0.1	0.05	12/20/2004	< 0.1	0.05
6/9/2005	< 0.1	0.05	1/24/2005	< 0.1	0.05
7/27/2005	0.1	0.1	2/15/2005	< 0.1	0.05
8/10/2005	< 0.1	0.05	3/2/2005	< 0.1	0.05
9/7/2005	< 0.1	0.05	4/4/2005	< 0.1	0.05
10/26/2005	< 0.1	0.05	1/19/2006	< 0.1	0.05
11/7/2005	0.1	0.1	2/6/2006	< 0.1	0.05
5/30/2006	< 0.1	0.05	3/6/2006	< 0.1	0.05
6/15/2006	< 0.1	0.05	4/25/2006	< 0.1	0.05
7/13/2006	< 0.1	0.05	12/4/2006	< 0.1	0.05
8/8/2006	< 0.1	0.05	1/24/2007	< 0.1	0.05
9/20/2006	< 0.1	0.05	3/22/2007	< 0.1	0.05
10/4/2006	< 0.1	0.05	4/4/2007	< 0.1	0.05
11/27/2006	< 0.1	0.05	12/13/2007	< 0.1	0.05
5/3/2007	< 0.1	0.05	1/2/2008	< 0.1	0.05
6/13/2007	< 0.1	0.05	2/7/2008	0.1	0.1
7/5/2007	< 0.1	0.05	3/18/2008	0.1	0.1
8/8/2007	< 0.1	0.05	4/17/2008	< 0.1	0.05
9/20/2007	< 0.1	0.05	12/2/2008	< 0.1	0.05
10/30/2007	< 0.1	0.05	1/12/2009	< 0.1	0.05
11/28/2007	< 0.1	0.05	2/26/2009	< 0.1	0.05
5/7/2008	< 0.1	0.05	3/24/2009	< 0.1	0.05
6/2/2008	< 0.1	0.05	4/15/2009	< 0.1	0.05
7/2/2008	< 0.1	0.05			
8/7/2008	< 0.1	0.05	<b>Geomean</b>		<b>0.053</b>
9/3/2008	< 0.1	0.05			
10/1/2008	< 0.1	0.05			
11/12/2008	< 0.1	0.05			
5/5/2009	< 0.1	0.05			
6/4/2009	< 0.1	0.05			
7/14/2009	< 0.1	0.05			
8/18/2009	< 0.1	0.05			
9/2/2009	< 0.1	0.05			
10/14/2009	< 0.1	0.05			
11/5/2009	< 0.1	0.05			
<b>Geomean</b>		<b>0.052</b>			

**ATTACHMENT 11**  
**Calculation of Water Quality Characteristics**  
**Data From Fixed Station STJ-36, St. Joseph River at S.R. 8, Newville**

Summer pH		Winter pH	
Date	(s.u.)	Date	(s.u.)
5/3/2005	8.27	12/20/2004	7.83
6/9/2005	8.14	1/24/2005	7.33
7/27/2005	7.97	2/15/2005	7.44
8/10/2005	8.35	3/2/2005	7.67
9/7/2005	8.38	4/4/2005	7.68
10/26/2005	8.08	1/19/2006	7.5
11/7/2005	7.53	2/6/2006	7.62
5/30/2006	7.83	3/6/2006	7.77
6/15/2006	7.96	4/25/2006	7.96
7/13/2006	7.89	12/4/2006	7.66
8/8/2006	8.19	1/24/2007	7.91
9/20/2006	8.46	3/22/2007	8.13
10/4/2006	8.04	4/4/2007	8.29
11/27/2006	7.58	12/13/2007	7.92
5/3/2007	8.34	1/2/2008	8.34
6/13/2007	8.07	2/7/2008	7.81
7/5/2007	8.19	3/18/2008	8.38
8/8/2007	7.99	4/17/2008	7.9
9/20/2007	8.03	12/2/2008	8.86
10/30/2007	8.47	1/12/2009	8.13
11/28/2007	8.47	2/26/2009	8.16
5/7/2008	7.86	3/24/2009	8.23
6/2/2008	8.03	4/15/2009	7.98
7/2/2008	7.89		
8/7/2008	8.04	<b>75th %</b>	<b>8.1</b>
9/3/2008	8.47		
10/1/2008	8.29		
11/12/2008	8.58		
5/5/2009	7.97		
6/4/2009	7.99		
7/14/2009	7.97		
8/18/2009	9		
9/2/2009	8.05		
10/14/2009	8.81		
11/5/2009	8.19		
<b>75th %</b>	<b>8.3</b>		

4/10/2011  
4:11 PM

Metals Translated  
(dissolved to total recovery)

	Acute	Chronic
Aluminum		
Antimony	1,000	1,000
Arsenic	1,000	1,000
Barium	1,000	1,000
Beryllium	1,000	1,000
Cadmium	1,000	1,000
Chromium III	0.316	0.865
Chromium VI	0.0432	0.362
Cobalt	1,000	1,000
Copper	0.940	0.960
Iron		
Lead	1,000	1,000
Magnesium	0.85	0.85
Mercury	1,000	1,000
Methylmercury	0.098	0.997
Nickel		
Selenium		0.922
Silver	0.85	1,000
Strontium	1,000	1,000
Thallium	1,000	1,000
Tin	1,000	1,000
Titanium	1,000	1,000
Vanadium	1,000	1,000
Zinc	0.978	0.986

[illegible]

Number of Cardiogenic solvents present in the effluent

### III Sources of Criteria

1) Radiata invertebrate water quality criterion; 327 IAC 2.1-5-4(a)(2)(i); Table 8-1; 327 IAC 2.1-5-4(b)(5)(i); Table 8-3; 327 IAC 2.1-5-4(b)(6); Table 8-4; 327 IAC 2.1-5-4(c)(5); and 327 IAC 2.1-5-4(f).  
2) Additional Criteria for Lake Michigan, 327 IAC 2.1-5-4(b), Table 8-9. These criteria are not aquatic life criteria, however, since they are treated as 4-day average criteria, they are included in the chronic aquatic criteria column.  
3) Tier 1 criterion calculated for the morphology in 327 IAC 2.1-5-4(i), 327 IAC 2.1-5-4(j), and 327 IAC 2.1-5-4(k).

4) Tier II value calculated using the methodology in 327 IAC 2-1.5-14, and 327 IAC 2-1.5-15.

4) a set of values calculated according to eq. 7: DPC 2:1.2:14, 3:2 DPC 2:1.2:14, and 3:2 DPC 2:1.2:14.

5) Estimated embankment screening value (EASV) calculated in accordance with 327 IAC 5.2.11.5(b)(3)(A)(i).

The aquatic criteria for the metals are dissolved criteria. The human health criteria for the metals are total (all of sediment-associated metals) criteria. The aquatic criteria are based on the assumption that the metals are dissolved in the water column. The human health criteria are based on the assumption that the metals are absorbed by the human body. The aquatic criteria are based on the assumption that the metals are dissolved in the water column. The human health criteria are based on the assumption that the metals are absorbed by the human body.

The WQACs for the metals are total recoverable (with the exception of Chromium (VI) which is dissolved), and aqueous metals are metals in a dissolved state. The WQACs for the metals are total recoverable (with the exception of Chromium (VI) which is dissolved), and aqueous metals are metals in a dissolved state.

The above-cited substances are probable or known human carcinogens. If an effluent contains more than one of these substances, the additivity provisions contained in 42 USC 5-2-11 (a)(4)(A) shall be applied. This approach automatically applies these additivity provisions by reducing each human health wasteload allocation for a carcinogen by an equal amount. This allocation between carcinogens can be altered on a case-specific basis.

The above-named substance is a chlorinated dibenzo-p-dioxin. If an effluent contains more than one chlorinated dibenzo-p-dioxin, the additivity provisions contained in 32 IAC 5-2-11(a)(4)(C) shall be applied.

The above-listed substances are bioaccumulative chemicals of concern (BCCCs). Discharge is not allowed for new discharges of BCCCs to streams and for any discharges of BCCCs to the open waters of Lake Michigan. Discharge is not allowed for the above-listed substances.

existing discharges of BODs to streams after January 1, 2004 unless the discharge meets an exception. To not allow for dilution for BODs, place a "Y" in the "BOD" column.

**Last revised:**

19 October 2009

# ATTACHMENT 13 Calculation of Preliminary Effluent Limitations

Discharge Name:	Elkhart Products (Sachler's Problem)
Receiving Stream:	St. Joseph River

1/9/2011  
6:02 PM

Discharge Flow		Mixing Zone
Q1,10 receiving stream (Outfall)	=	0.34 mgd
Q7,10 receiving stream (Outfall)	=	64.6 mgd
Q7,10 receiving stream (Indiana Water Supply)	=	21%
Harmonic Mean Flow (Outfall)	=	24%
Harmonic Mean Flow (Drinking Water Intake)	=	25%
Q90,10 receiving stream	=	21%
Discharge-Induced Mixing Dilution Ratio (S)	=	24%
Hardness (50th percentile)	=	mg/L
Stream pH (50th percentile)	=	8.4
Summer Stream Temperature (75th percentile)	=	23 C
Summer Stream pH (75th percentile)	=	8.3
Winter Stream Temperature (75th percentile)	=	4.9 C
Winter Stream pH (75th percentile)	=	8.1

Discharge-Induced Mixing (D/M)	No
Drinking Water Intake Downstream	No
Receiving Water Supply Downstream	No

## Metal Translators (dissolved to total recoverable)

	Acute	Chronic
Aluminum	1,000	1,000
Antimony	1,000	1,000
Arsenic	1,000	1,000
Barium	1,000	1,000
Beryllium	1,000	1,000
Cadmium	4N/1M	4N/1M
Chromium III	0.316	0.840
Chromium VI	0.982	0.982
Cobalt	1,000	1,000
Copper	0.990	0.990
Iron	1,000	1,000
Lead	4N/1M	4N/1M
Manganese	1,000	1,000
Mercury	0.35	0.15
Nickel	1,000	1,000
Nickel	0.998	0.997
Selenium	0.922	0.922
Silver	0.35	1,000
Sroutium	1,000	1,000
Taladium	1,000	1,000
Tin	1,000	1,000
Titanium	1,000	1,000
Vanadium	1,000	1,000
Zinc	0.978	0.986

Indiana Water Quality Criteria for the Great Lakes System (a)(1)													Preliminary Effluent Limitations (calculated in accordance with 327 IAC 5-2-11.4 and 11.6)					
A		B		C		D		E		F		G						
Aquatic Life Criteria				Human Health				Human Health				Wildlife						
Acute (CMC)				Drinking (HNC-D)				Drinking (HNC-D)				Drinking (HNC-D)						
Priority 21				CAS Number				CV				CV						
1	1	52	7664417	2	0.6	2	0.6	2	0.6	2	0.6	2	0.6	2	0.6			
1	1	53	7664417	2	0.6	2	0.6	2	0.6	2	0.6	2	0.6	2	0.6			
Total Arsenic (as N)																		
Summer																		
Winter																		
Average																		
Maximum																		
Minimum																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		
Criteria																		
Type																		

**ATTACHMENT 14**  
**Antidegradation Procedure for Non-BCCs**

1/9/2011  
5:06 PM

(calculated in accordance with 327 IAC 5-2.11.3)	Existing Conditions (these data need to be entered)				Proposed Conditions (automatically entered if WQBELs, otherwise limitations must be entered)				Antidegradation Review			
	Existing Effluent Flow =		0 mgd									
	Existing Effluent Limitations				Existing Effluent Quality (only needed if no limitations)				Basis of Proposed Limits			
	Concentration (µg/l)		Mass (lbs/day)		Concentration (µg/l)		Mass (lbs/day)		New or Increased Permit Limit?		Receiving Water Increase?	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	WQBELs	Test 1*	Test 2*	Is the Proposed Increase Greater than De minimis?
High Quality Water? (Yes/No)												Antidegradation Demonstration Required?
Parameters:												
Chloride	Yes											Yes

\*De minimis Tests:

Test 1: The proposed increase in mass discharged is greater than or equal to 10% of the unmet loading capacity.

Test 2: Less than 10% of the total loading capacity remains unmet after the lowering of water quality.

# **ATTACHMENT 15** **Antidegradation Procedure for Non-BCCs**

1/9/2011  
6:07 PM

(calculated in accordance with 327 IAC 5-2-11.3)	Existing Conditions (these data need to be entered)				Proposed Conditions (automatically entered if WQBELs, otherwise limitations must be entered)				Antidegradation Review					
	Existing Effluent Flow =		0 mgd						Receiving Water Increase?	New or Increased Permit Limit?	Beds of Proposed Limits (Technology/ WQBELs)	Is the Proposed Increase Greater than De minimis?	Antidegradation Demonstration Required?	
High Quality Water? (Yes/No)	Concentration (ug/l)	Average	Maximum	Mass (lb/day)	Concentration (ug/l)	Average	Maximum	Mass (lb/day)				Test 1 *	Test 2 *	
Parameters														
Total Ammonia (as N)														
Summer	Yes											Yes	No	No
Winter	Yes											Yes	No	No

\*De minimis Tests:

Test 1: The proposed increase in mass discharged is greater than or equal to 10% of the unused loading capacity.  
Test 2: Less than 10% of the total loading capacity remains unused after the lowering of water quality.